

GARDENING TIPS FOR JANUARY

After one of the nicest and longest falls in many years bitter weather arrived suddenly, catching many gardens unprepared. If your yard is like mine, you probably still have the dead tops of perennials and annuals sticking out of the snow because the weather conditions did not provide the opportunity to clean up the yard. While the debris from last year's plants is not serious, it should be cleaned up before spring so you don't have that task at a time when there are many other spring chores to perform. Plants that you know have had foliar diseases such as mildew on roses should be cleaned up as soon as possible to prevent a re-infection of this disease in the same area next growing season.

January often will have days when the temperatures are in the 50's and sometimes higher. These are the days when it would be a good time to finish the cleanup in the yard. If the soil is not frozen you can even do some cultivating. This helps to open the soil, providing better moisture penetration and the freezing and thawing action on the lumpy soil will result in a mellow, easy to work soil at gardening time in the spring.

Perhaps you purchased some bulbs for spring flowering but because of the storms did not get a chance to plant them. All is not lost, for you can plant them as late as mid-February providing the soil is workable and still have spring flowers. Sometimes bulbs planted this late will flower later but this is often an advantage in Colorado since they tend to flower too early and become damaged by untimely freezes.

Rather than hauling your now spent Christmas tree to the dump, cut off the branches and lay them over some of the perennials in your yard. They will trap the snow, helping to hold moisture during normally dry February. If you have a rock garden the boughs will protect many of the shallow-rooted rock plants from winter drying.

Don't forget your trees and shrubs. If we have a period of time when the ground is not covered with snow, deep watering of the woody plants in your yard will be beneficial. The use of a hose-attached root feeder will do a good job of applying water where the roots need it and, as an added benefit, improve aeration. Avoid angling the watering device towards the trunk. The best method is to stand with your back to the plant and angle the device away from the tree. This will encourage the root system to grow away from the tree rather than in on itself.

Recently there has been some publicity on the effect of the sub-zero weather on pine bark beetles and similar insects. While the sub-zero weather may have reduced the population of certain bark boring insects, it is doubtful that there was sufficient cold to eliminate many of the problems we have had in the past. We should still clean up dead and dying elm wood to destroy the elm bark beetle. January is a good month to do this. Trees for Today and Tomorrow will be again conducting an elm wood cleanup campaign to slow the spread of Dutch elm disease. Please support these activities in your community.

Happy gardening in the new year.

Dr. J. R. Feucht

REFLECTIONS FROM THE DIRECTOR

As we pause to reflect upon the ending of another year, and strain to catch glimpses of the road ahead in 1973, we can take considerable satisfaction, it seems to me, from the conviction that 1972 was indeed a good year for the Denver Botanic Gardens. It was a good year — from *many* aspects. Substantial progress has been achieved in the continuing physical development of the outside gardens and facilities needed for their support. After years of preparatory work, the planting of the new Iris Garden and rows of new trees are evidence that our beautiful landscaping designs are finally being converted into the reality of exciting new gardens. From many hours of toil, the Horticultural Advisory Committee has produced a detailed planting plan for a large part of the new gardens, and a listing of plants sought for placing in the completed areas of the gardens in 1973.

The Gift Shop has had the most successful year in its history, and the Plant Sale and Christmas Sale established new record levels of sales 1972. Membership in the Denver Botanic Gardens continued its steady growth, despite a fifty percent increase in the basic membership fee. Publications of the Gardens had their best year ever. Five fine issues of *The Green Thumb* were produced, one of which is an historic issue honoring Denver's great landscaping and horticultural figure, Mr. S. R. DeBoer. The *Green Thumb Newsletter* provided timely information to Denver area gardeners and horticulturists and carried schedules of Garden activities twelve times during the year.

New additions to the permanent staff have given us the largest and best-qualified group of persons in the history of the Gardens to cope with the many problems of growth and development. The Educational Program enjoyed its best year to date with numerous courses and short sessions, lectures, wild flower field trips, and a very successful symposium to its credit.

The supporting budget from the City and County of Denver reached its highest level yet, and the Gardens continued to receive numerous gifts, bequests, memorials and pledges of financial support from private sources. The Helen Fowler Library and the Kathryn Kalmbach Herbarium have maintained a gratifying growth in their acquisitions and services. The Children's Garden program was clearly one of the most successful to date. And the number of visitors to the Gardens and participants in its programs reached an all-time high.

All of these wonderful things have been achieved as a result of the dedication and hard work of many groups of people: the Denver City Council and Mayor McNichols; officers and members of the Board of Trustees of the Denver Botanic Gardens; Manager Joe Ciancio of the Department of Parks and Recreation, members of his staff, and other city officials; the staff and all employees of the Denver Botanic Gardens. Supplementing the efforts of those just listed have been the really indispensable contributions of hundreds of volunteers from the Associates, the Botanic Gardens Guild, Around the Seasons Club, the Garden Club of Denver, numerous plant societies, neighborhood garden clubs, con-

servation and environmental groups, the CSU Extension Horticulturist's staff, and numerous other persons not affiliated with organized groups. To all of you who have been a part of this great program which makes the Botanic Gardens possible, we offer our sincere and heartfelt thanks for your dedication and your loyalty. We wish that we could acknowledge each of you here by name.

The contract has been let for the erection in 1973 of a new storage building to house our motorized vehicles adjacent to the service area. This building is being built with City funds. We are eagerly anticipating construction of two new greenhouses, primarily from funds made available by the Associates of Denver Botanic Gardens. The year 1973 should see gratifying progress in the construction and relandscaping program in much of the outside gardens. Beginning of construction of the Herb Garden Extension as a project of the Botanic Gardens Guild is now planned for 1973. The rehabilitation of the Hammer Garden will be undertaken in the coming year under the auspices of the Garden Club of Denver. The new year hopefully will bring us close to our goal of establishing an arboretum as an extension of the Denver Botanic Gardens on land expected to be leased from the Army Corps of Engineers near the Chatfield Dam.

I should like to take this opportunity to wish for each of you a New Year that is truly happy and rewarding, from all of us here at Denver Botanic Gardens. We are looking forward to being associated with you for another great year of achievement in 1973. Many challenges and much hard work lie ahead for us in 1973, but with the cooperation of all of you we shall continue to move forward successfully.

William G. Gambill, Jr.
Director

Thank You!

The Associates Christmas Sale was the biggest ever and the crowds that thronged to Horticulture Hall marveled at the variety of gifts available to them. The members of Around the Seasons, Associates, and the Guild spent many, many hours in preparation for the event. Their hard work then and at the sale is certainly appreciated by all who benefit from their dedication.

The Around the Seasons Club extends an invitation to all interested men and women to join them at 11 a.m. on Thursday, January 18th, when Kenneth R. Wright, expert hydrologist, will talk on "Water Problems in Colorado." The meeting will be in the Gardens House, 909 York St.

Mr. Wright, a partner in the firm of Wright-McLaughlin, which provided engineering planning and design for the extensive water system — pools, lakes, waterfalls and fountains — for our new Garden plan, is known internationally for his expertise in water resources, water conservation, water rights, municipal water systems, flood control and drainage.

FLOWERS IN FEBRUARY

Aloha — come and see our Hawaiian garden display at the annual Garden and Home Show, February 2 - 11, 1973 in Currigan Exhibition Hall. The theme this year is "All-American Design". In addition to many attractive garden displays, there will be interior design rooms, a Colorado Carnation Growers exhibit, garden and home theater, flower show and a restaurant for your enjoyment. The hours are Fridays and Saturdays — Noon to 10 p.m.; Sundays — Noon to 6 p.m., and Monday through Thursday — 6 p.m. to 10 p.m. Admission: Adults \$1.50; Children 6 - 12, 75¢ and Children under 6 - free.

JANUARY LECTURE

"Growth Characteristics of Woody Plants" will be the title of a lecture on January 29 at 8 p.m. in Horticulture Hall. Dr. T. T. Kozlowski, internationally known authority, will deliver an illustrated lecture on interesting aspects of vegetative growth and ways to control such growth. Dr. Kozlowski is the A. J. Riker Professor in the Department of Forestry at the University of Wisconsin and has served as Senior Fulbright Research Scholar at Oxford and Intercounty Fulbright Lecturer in the U.S. Plan now to hear this most distinguished scientist.

REMINDER

Dr. Brunquist is planning the first field trip of the new year in February (more information in the next newsletter) so remember the Botany Club meeting on January 19 at 7:30 p.m. in the Herbarium. Plan to participate in this working session which will be a good preparation for the trips later in the year.

Tropical Plants of the Conservatory will start on January 8 and run for 6 weeks on Monday and Wednesday from 1:30-3:30 p.m. This course will deal with aspects of basic botany and taxonomy besides an in depth study of the plants in the conservatory. Our current guides are urged to attend the extra sessions! Please sign up by January 4th.

Home Garden Design, a 10 week landscape course, offered by Andrew Knauer will be held in Classroom A, 7:30 - 10:00 p.m. starting on January 9. Please remember to talk with Mr. Knauer before registering. Please call 297-2547 ext. 4 before January 4th.

HERB CLASS!

Knowing, Growing and Using Herbs is the title of a four week class to be offered in February. Mrs. John Falkenberg, an active volunteer of the Denver Botanic Gardens, plans to touch on such fascinating subjects as the history, growing, preparation and uses of herbs in cooking and in pot pourri. There will be demonstrations at each session and ample time for discussion and questions. The cost will be \$10.00 for members and \$17.50 for non-members of the Gardens. Remember 9:30 - 11:00 a.m., Classroom B. Starts February 6 and every Tuesday through February 27th.

Donations of good quality, serviceable merchandise are needed at the University Thrift Shop, 600 Ogden Street. Each organization that participates in this program is assigned two sale weeks and the Denver Botanic Gardens has been scheduled for January 29 through February 3 and April 8 through the 14th. The hours are 9 - 4:30 Monday through Friday, and 9 - 4 on Saturday. It would be very helpful if donations could be taken to the Shop before 3:00.

Help Please —

Does anyone have black and white pictures of tree damage in the October snows of 1969 and 1971? If so, please mark to the attention of the Editor, *The Green Thumb* and turn in at the office. Thank you.

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Readers will be sorry to learn of the death of Raymond B. Crowley, a member of the Board of Trustees. He was a progressive leader in the Floral Industry in Denver and very active in the Colorado Grower's Association where he served in many capacities and as an officer and Board Member. Our sympathy is extended to his family.

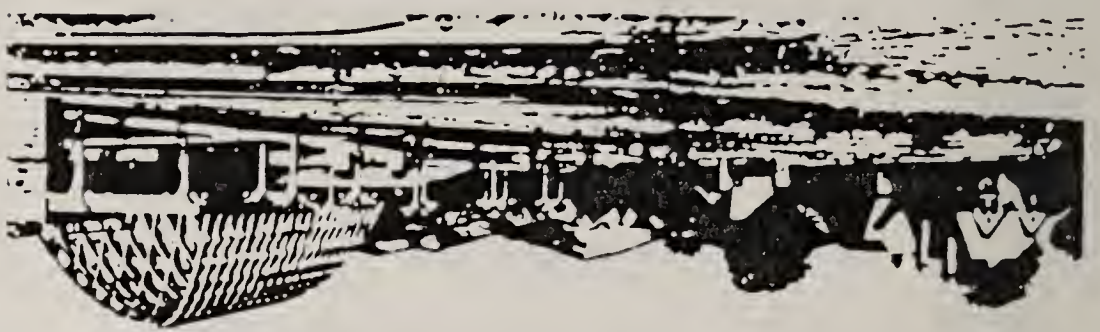
CALENDAR OF EVENTS

JANUARY, 1973

JANUARY

2)	* 10:00 AM	Ed. Bldg. — Herbarium	Herbarium Committee
2)	* 1:00 PM	Botanic Gardens House — Dining Room	Editorial Committee
2)	7:00 PM	Ed. Bldg. — Lecture Room B	Jr. Bonsai Club
2)	7:30 PM	Botanic Gardens House — Main Room	Colorado Mountain Club — Conservation
3)	7:00 PM	Botanic Gardens House — Dining Room	Wild Life of Audubon Society
3)	* 7:00 PM	Ed. Bldg. — Lecture Room A	Flower Arrangement Class — Mr. Ashley
3)	* 7:30 PM	Ed. Bldg. — Lecture Room B	Cactus Club
4)	7:15 PM	Ed. Bldg. — Horticulture Hall	Denver Orchid Society
6)	* 9:30 AM	Botanic Gardens House — Main Room	Gloxinia Gesneriad Growers
7)	2:00 PM	Ed. Bldg. — Lecture Room C	Bromeliad Organization
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8)	* 1:30 PM	Ed. Bldg. — Lecture Room A	Guides Training Class
8)	* 7:00 PM	Ed. Bldg. — Lecture Room A	Flower Arrangement Class — Mr. Ashley
8)	* 7:30 PM	Botanic Gardens House — Dining Room	Swingle Study Group
9)	* 11:30 AM	Botanic Gardens House — Main Room	Garden Club of Denver — Lunch and Tour
9)	* 4:00 PM	Botanic Gardens House — Dining Room	Executive Committee
9)	* 7:30 PM	Ed. Bldg. — Lecture Room A	Home Garden Design — Mr. Knauer
10)	* 9:30 AM	Ed. Bldg. — Horticulture Hall	Regional Workshop — Ground Maintenance Dr. Feucht
10)	* 9:30 AM	Ed. Bldg. — Lecture Room B	D.B.G. Guild — Mr. Bibee, Speaker
10)	* 1:30 PM	Ed. Bldg. — Lecture Room A	Guides Training Class
10)	* 7:00 PM	Ed. Bldg. — Lecture Room A	Flower Arrangement Class — Mr. Ashley
10)	7:30 PM	Ed. Bldg. — Horticulture Hall	Colorado Mountain Club — “Winter Camping” — Paul Poitras
10)	* 7:30 PM	Ed. Bldg. — Lecture Room B	Colorado Mountain Club — Denver Council
11)	* 10:00 AM	Botanic Gardens House — Main Room	Rocky Mountain Regional Turf Grass
11)	8:00 PM	Ed. Bldg. — Horticulture Hall	Colorado Mountain Club — Program
12)	7:30 PM	Botanic Gardens House — Main Room	Dahlia Society
13)	9:00 AM	Ed. Bldg. — Lecture Room C	Sierra Club
13)	* 2:00 PM	Ed. Bldg. — Lecture Room B	Colorado Mountain Club — State Board
14)	9:00 AM	Ed. Bldg. — Lecture Room C	Sierra Club
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15)	* 10:00 AM	Botanic Gardens House — Dining Room	House Committee
15)	* 1:30 PM	Ed. Bldg. — Lecture Room A	Guides Training Class
15)	* 7:00 PM	Ed. Bldg. — Lecture Room A	Flower Arrangement Class — Mr. Ashley
16)	* 12:00 Noon	Botanic Gardens House — Main Room	African Violet Council
16)	7:00 PM	Botanic Gardens House — Dining Room	Audubon Society
16)	7:00 PM	Ed. Bldg. — Horticulture Hall	Sierra Club
16)	7:00 PM	Ed. Bldg. — Lecture Room B	Jr. Bonsai Club
16)	* 7:30 PM	Ed. Bldg. — Lecture Room A	Home Garden Design — Mr. Knauer
17)	* 9:00 AM	Botanic Gardens House — Dining Room and Kitchen	D.B.G. Guild — Bottle vinegar
17)	1:00 PM	Ed. Bldg. — Lecture Room B	African Violet Clinic — Mrs. Ross Lahr
17)	* 1:30 PM	Ed. Bldg. — Lecture Room A	Guides Training Class
17)	* 7:00 PM	Ed. Bldg. — Lecture Room A	Flower Arrangement Class — Mr. Ashley
17)	7:30 PM	Ed. Bldg. — Horticulture Hall	Zero Population Growth
17)	7:30 PM	Botanic Gardens House — Main Room	Capitol Hill United Neighborhood
18)	* 10:00 AM	Botanic Gardens House — Main Room	Around The Seasons
18)	7:30 PM	Ed. Bldg. — Lecture Room C	Organic Gardening Club
19)	7:30 PM	Ed. Bldg. — Herbarium	Botany Club
20)	* 10:30 AM	Ed. Bldg. — Horticulture Hall	Rocky Mountain Weavers Guild — Tour — Lunch — Program
20)	2:00 PM	Botanic Gardens House — Main-Dining Rooms and Kitchen	Iris Society
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22)	* 1:30 PM	Ed. Bldg. — Lecture Room A	Guides Training Class
22)	* 7:00 PM	Ed. Bldg. — Lecture Room A	Flower Arrangement Class — Mr. Ashley
23)	* 4:00 PM	Botanic Gardens House — Conference Room	Board of Trustees
23)	* 7:30 PM	Ed. Bldg. — Lecture Room A	Home Garden Design — Mr. Knauer
24)	* 1:30 PM	Ed. Bldg. — Lecture Room A	Guides Training Class

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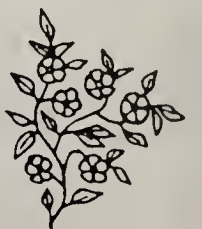
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24)	*	7:00 PM	Ed. Bldg. — Lecture Room A	Flower Arrangement Class — Mr. Ashley
24)		7:30 PM	Ed. Bldg. — Horticulture Hall	Colorado Mountain Club — “Winter Camping” — Paul Poitras
25)		7:30 PM	Botanic Gardens House — Main Room	Men’s Garden Club of Denver
25)		7:30 PM	Ed. Bldg. — Lecture Room B	Capitol Hill United Neighborhood
25)		8:00 PM	Ed. Bldg. — Horticulture Hall	Colorado Mountain Club — Program
26)	*	9:45 AM	Ed. Bldg. — Horticulture Hall	Ikebana International
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29)	*	1:30 PM	Ed. Bldg. — Lecture Room A	Guides Training Class
29)	*	7:00 PM	Ed. Bldg. — Lecture Room A	Flower Arrangement — Mr. Ashley
29)		8:00 PM	Ed. Bldg. — Horticulture Hall	“Growth Characteristics of Woody Plants” — Dr. T. T. Kozlowski
30)	*	7:30 PM	Ed. Bldg. — Lecture Room A	Home Garden Design — Mr. Knauer
31)	*	1:30 PM	Ed. Bldg. — Lecture Room A	Guides Training Class
31)	*	7:00 PM	Ed. Bldg. — Lecture Room A	Flower Arrangement Class — Mr. Ashley
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FEBRUARY				
1)		9:00 AM	Botanic Gardens House — Main-Dining Rooms and Kitchen	Rocky Mountain Cable T. V. Association
1)		7:15 PM	Ed. Bldg. — Horticulture Hall	Denver Orchid Society
2)	*	11:00 AM	Botanic Gardens House — Main-Dining Rooms and Kitchen	Civic Garden Club
3)	*	9:30 AM	Botanic Gardens House — Main Room	Gloxinia Gesneriad Growers
4)		2:00 PM	Ed. Bldg. — Lecture Room C	Bromeliad Organization

* = For members or enrollees only.



Green Thumb Newsletter is published monthly by Denver Botanic Gardens, Inc., 909 York Street, Denver, Colorado 80206. The Newsletter is included as a benefit of membership in the Denver Botanic Gardens, regular membership dues being \$7.50 a year. Items for publication are welcome. The deadline for copy to the editor is 2:00 p.m. on the 15th of each month preceding publication. Editor — Margaret Sikes, 297-2547, Ext. 23.



GARDENING TIPS FOR FEBRUARY

No one needs to be reminded of the extremely cold weather experienced from about Thanksgiving Day on. While Colorado does occasionally have cold periods such as this and there are many years when even lower temperatures occur, some record-breaking lows did occur in December which are now showing up as injury, particularly to recently transplanted evergreens.

Browning in Evergreens

Browning and, apparently, even some death of buds has been observed in Austrian, Scotch and ponderosa pines as well as some reports of injury in the foxtail or bristlecone pine. Browning has also been observed in spruce, fir and upright junipers. While it is still a bit early to determine the extent of the damage, pines in particular will undoubtedly suffer the most because they have less capability of recovery from dieback injury.

The browning is apparently the result of desiccation from the extremely low temperatures occurring primarily in the December 5th to 10th period along with strong winds. This combination produced a freeze-dry effect where water goes from a solid to a vapor without changing to a liquid. It was reported that the chill factor during that cold spell reached as low as 60° below zero. Recently transplanted evergreens and those under poor soil conditions in which good root growth could not take place, suffered most because the root surface area was too small to replace lost water.

While little can be done at the present time, deep root watering with a hose-attached soil needle will help as soon as the soil has thawed enough to get good water absorption. When air temperatures are sufficiently warm, a foliar spray containing totally soluble fertilizers diluted according to manufacturer's directions, may also be helpful. In any case, don't be too hasty to prune out brown areas in the plant. Wait until you are sure that these areas are dead.

Effect of Cold on Insects

The cold spell has also led to speculation by many people that bark beetles and other insects would be killed. While some reductions in insect populations occur, it is my opinion that this should be taken with a grain of salt and expect to encounter serious insect problems this spring anyway. Just as our plants have an amazing ability to withstand severe winters, so do most of the insects indigenous to this region.

Elm Wood Cleanup Still Necessary

Dutch elm disease continues to move across the state, causing an increasing number of tree deaths each year. These increases can be expected to continue unless everyone does his part in destroying the breeding sites for the elm bark beetle, carrier of the disease. Join Trees for Today and Tomorrow in another elm wood cleanup campaign to be officially conducted in March, but don't wait until the cam-

paign starts to act. Scout your yard now and get rid of any elm logs, fallen branches or other debris that might harbor beetles.

Think Spring Now

Now is a good time to plan your flower garden. While sitting by the fireside, keeping warm, thumb through some of the garden catalogues for ideas. Then prepare a list of plants for the coming growing season. Spring will be here before you realize it. To get you in the mood, plan to attend the Garden and Home Show, Currigan Exhibition Hall, February 2-11. The show theme is "All American Design." Reduced rate tickets, good Monday through Friday, are available at Denver Botanic Garden House and Library.

—James R. Feucht

The Editorial Committee has received many favorable comments about the last *Green Thumb* magazine which pays tribute to Mr. DeBoer and his work. We hope all our members have enjoyed reading this informative issue and we wish to express special thanks to Mrs. Garrey, whose idea it was and who encouraged all with her enthusiasm; Mrs. Novitt, who spent hours collecting and transcribing the information and Mr. Woodward, who wove the narrative together and who by his work has published a historical document of which we all can be proud. If you desire extra copies, some are available in the Gift Shop at a cost of \$1.25 each.

Information on Classes!

Remember *Knowing, Growing and Using Herbs!* This class offered by the Associates in conjunction with the Gardens, will meet every Tuesday in February. It begins at 9:30 on February 6 in Classroom B. The cost is \$10.00 for members and \$17.50 for non-members. Enrollment is limited so get your name in now. One of the sessions will feature demonstrations on potpourri by Kathy Petersen and on dyeing of materials by Patsy Fisher. All this — and as an extra treat, Chef Pierre Wolfe of the Quorum Restaurant will share some of his cooking expertise with us on February 27 at 9:30 in Horticulture Hall. This last will be open to the public for a donation of \$3.50. Invite your friends and make a morning of it.

Want to learn about types of plants for your garden that will require little water and maintenance and yet will beautify your property? Plan to attend two morning sessions on *Native Plants in Landscape Design* on February 10 and 17, from 9-12 in Classroom B. Mr. Harry Swift, who is eminently qualified in this field, will suggest plants for your consideration and answer questions on specific problems. Free.

Let's go see what spring is up to! Dr. Brunquist has planned the first field trip of the season on February 14. Meet at the parking lot of the house, 909 York, at 9 a.m. The group will be back before noon. No charge but participants share expenses with the driver.

(Cont'd on next page)

The University of Colorado in conjunction with the Denver Botanic Gardens will offer a course in *Environmental Education*. This graduate level course in education carries two-semester hours credit and will meet Thursday evenings from 6:30 p.m. to 9 p.m., Classroom C. The class will start on February 15 and terminates on April 12. For further information, please call the University of Colorado, Office of Continuing Education, 892-1117 ext. 286.

One of the most popular of the house plants will be featured in an African Violet Workshop on February 24, from 9-12 in Horticulture Hall. If you have one plant or a shelf full, this presentation will be of great value to you. Some of the topics to be covered are propagation, miniatures and semi-miniatures, diseases and treatment, preparing a plant for show, and growing plants under lights. The workshop will be headed by Mrs. Ross Lahr and will feature several different speakers from the Hi Hopes Study Club.

AND SPEAKING OF

An African violet plant sale will be held at the Englewood City Hall, 3400 South Elati Street, on Saturday, February 10th. This sale is being sponsored by the Hi Hopes Study Club in an effort to raise funds to send a delegate to the 27th Annual Convention of the African Violet Society of America to be held at Minneapolis, Minnesota in April.

There will be available blooming and starter plants (including new 1972 varieties), leaves, violets in bubble bowls, hanging baskets, gesneriads, indoor gardening supplies, craft items and Valentine gifts.

An educational exhibit and a display of specimen plants will be of interest. Information as to the culture and care of America's favorite houseplant will be gladly given to those having questions.

The sale will be open to the public on Saturday from 10:00 a.m. to 4:00 p.m.

For further information, please call the Club President, Mrs. Harry A. Wolf, 722-7325 or Miss Sue Tyson, 756-4770.

RECENT ACQUISITIONS — HELEN FOWLER LIBRARY

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REMINDER

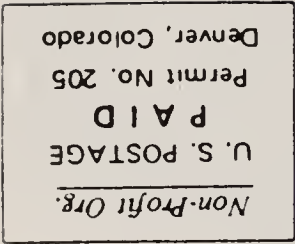
The book drop at the gate house is now in operation.

CALENDAR OF EVENTS

FEBRUARY, 1973

FEBRUARY

1)	* 9:00 AM	Botanic Gardens House — Main-Dining Rooms and Kitchen	Rocky Mountain Cable TV Association
1)	7:15 PM	Ed. Bldg. — Horticulture Hall	Denver Orchid Society
2)	* 11:00 AM	Botanic Gardens House — Main-Dining Rooms and Kitchen	Civic Garden Club
3)	* 9:30 AM	Botanic Gardens House — Main Room	Gloxinia Gesneriad Growers
5)	* 1:30 PM	Ed. Bldg. — Lecture Room A	Guides Training Class
5)	* 7:00 PM	Ed. Bldg. — Lecture Room A	Flower Arrangement Class — Mr. Ashley
6)	8:00 AM	Ed. Bldg. — Horticulture Hall	Mass Market Horticulture Workshop — C.S.U.
6)	* 9:30 AM	Ed. Bldg. — Lecture Room B	“Knowing, Growing and Using Herbs” Mrs. John Falkenberg
6)	* 10:00 AM	Ed. Bldg. — Herbarium	Herbarium Committee
6)	* 1:00 PM	Botanic Gardens House — Dining Room	Editorial Committee
6)	7:00 PM	Ed. Bldg. — Lecture Room B	Jr. Bonsai Club
6)	* 7:30 PM	Ed. Bldg. — Lecture Room A	“Home Garden Design” — Mr. Knauer
6)	7:30 PM	Ed. Bldg. — Lecture Room C	Sierra Club — Environmental Education Seminar
6)	7:30 PM	Botanic Gardens House — Main Room	Colorado Mountain Club — Conservation
7)	* 9:30 AM	Ed. Bldg. — Lecture Room B	D.B.G. Personnel Training — Gardeners
7)	* 1:30 PM	Ed. Bldg. — Lecture Room A	Guides Training Class
7)	* 7:00 PM	Ed. Bldg. — Lecture Room A	Flower Arrangement Class — Mr. Ashley
7)	7:00 PM	Botanic Gardens House — Dining Room	Wild Life Committee of Audubon Society
7)	* 7:30 PM	Ed. Bldg. — Lecture Room B	Cactus Club
8)	8:00 PM	Ed. Bldg. — Horticulture Hall	Colorado Mountain Club
8)	8:00 PM	Botanic Gardens House — Main-Dining Rooms and Kitchen	Denver Rose Society
9)	7:30 PM	Botanic Gardens House — Main Room	Dahlia Society
10)	9:00 AM	Ed. Bldg. — Lecture Room B	“Native Plants in Landscape Design”
12)	* 1:30 PM	Ed. Bldg. — Lecture Room A	Guides Training Class
12)	* 7:00 PM	Ed. Bldg. — Lecture Room A	Flower Arrangement Class — Mr. Ashley
12)	7:30 PM	Ed. Bldg. — Lecture Room C	Colorado Mycological Society
12)	* 7:30 PM	Botanic Gardens House — Dining Room	Swingle Study Group
13)	* 9:30 AM	Ed. Bldg. — Lecture Room B	“Knowing, Growing and Using Herbs” Mrs. John Falkenberg
13)	* 4:00 PM	Botanic Gardens House — Dining Room	Executive Committee
13)	* 7:30 PM	Ed. Bldg. — Lecture Room A	“Home Garden Design” — Mr. Knauer
14)	* 9:00 AM	Botanic Gardens House — Main Room	D.B.G. Guild
14)	* 1:30 PM	Ed. Bldg. — Lecture Room A	Guides Training Class
14)	* 7:00 PM	Ed. Bldg. — Lecture Room A	Flower Arrangement Class — Mr. Ashley
14)	7:30 PM	Botanic Gardens House — Main Room	Colorado Citizens for Clean Air
15)	* 10:00 AM	Botanic Gardens House — Main Room	Around the Seasons
15)	* 6:30 PM	Ed. Bldg. — Lecture Room C	Environmental Education — C.U. Mr. Chas Holtzer
15)	7:30 PM	Ed. Bldg. — Lecture Room B	Organic Gardening Club
16)	7:30 PM	Ed. Bldg. — Herbarium	Botany Club
17)	9:00 AM	Ed. Bldg. — Lecture Room B	“Native Plants in Landscape Design”
17)	10:00 AM	Ed. Bldg. — Lecture Room A	Organic Soil and Food Association
18)	* 4:30 PM	Ed. Bldg. — Horticulture Hall and Lounge	Iris Society — Board Meeting and Pot-luck.
19)	* 10:00 AM	Botanic Gardens House — Dining Room	House Committee Meeting
19)	* 7:00 PM	Ed. Bldg. — Lecture Room A	Flower Arrangement Class — Mr. Ashley
20)	* 9:30 AM	Ed. Bldg. — Lecture Room B	“Knowing, Growing and Using Herbs” Mrs. John Falkenberg
20)	7:00 PM	Ed. Bldg. — Horticulture Hall	Sierra Club
20)	7:00 PM	Ed. Bldg. — Lecture Room B	Jr. Bonsai Club
20)	7:00 PM	Botanic Gardens House — Dining Room	Audubon Society
20)	* 7:30 PM	Ed. Bldg. — Lecture Room A	“Home Garden Design” — Mr. Knauer
21)	9:30 AM	Ed. Bldg. — Horticulture Hall	Regional Workshop Ground Maintenance — Dr. Feucht
21)	* 7:00 PM	Ed. Bldg. — Lecture Room A	Flower Arrangement Class — Mr. Ashley



22)	* 6:30 PM	Ed. Bldg. — Lecture Room C	Environmental Education — C.U. Mr. Chas. Holtzer
22)	7:00 PM	Ed. Bldg. — Lecture Room A	Mycological Society
22)	7:30 PM	Ed. Bldg. — Lecture Room B	Capitol Hill United Neighborhood
22)	7:30 PM	Botanic Gardens House — Main Room	Men's Garden Club of Denver
22)	8:00 PM	Ed. Bldg. — Horticulture Hall	Colorado Mountain Club
23)	* 9:45 AM	Ed. Bldg. — Horticulture Hall	Ikebana International
24)	9:00 AM	Ed. Bldg. — Horticulture Hall	African Violet Symposium
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26)	* 7:00 PM	Ed. Bldg. — Lecture Room A	Flower Arrangement Class — Mr. Ashley
27)	* 9:30 AM	Ed. Bldg. — Lecture Room B	"Knowing, Growing and Using Herbs" Mrs. John Falkenberg
27)	* 7:30 PM	Ed. Bldg. — Lecture Room A	"Home Garden Design" — Mr. Knauer
27)	7:30 PM	Ed. Bldg. — Lecture Room B	Sierra Club — Environmental Education Seminar
27)	7:30 PM	Ed. Bldg. — Lecture Room C	Gladiolus Society
27)	* 7:30 PM	Botanic Gardens House — Main Room	Colorado Mountain Club — Photo Section
28)	* 7:00 PM	Ed. Bldg. — Lecture Room A	Flower Arrangement Class — Mr. Ashley
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MARCH			
1)	* 6:30 PM	Ed. Bldg. — Lecture Room C	Environmental Education - C.U. Mr. Chas. Holtzer
1)	7:00 PM	Ed. Bldg. — Lecture Room A	Mycological Society
1)	7:15 PM	Ed. Bldg. — Horticulture Hall	Denver Orchid Society
2)	* 11:00 AM	Botanic Gardens House — Main-Dining Rooms and Kitchen	Civic Garden Club of Denver
3)	* 9:30 AM	Botanic Gardens House — Main Room	Gloxinia Gesneriad Growers



Green Thumb Newsletter is published monthly by Denver Botanic Gardens, Inc., 909 York Street, Denver, Colorado 80206. The Newsletter is included as a benefit of membership in the Denver Botanic Gardens, regular membership dues being \$7.50 a year. Items for publication are welcome. The deadline for copy to the editor is 2:00 p.m. on the 15th of each month preceding publication. Editor — Margaret Sikes, 297-2547, Ext. 23.



GARDENING TIPS FOR MARCH

The posters and flyers state "Wanted Dead. Reward Offered." Again this year Trees for Today and Tomorrow, a coalition of more than forty-five organizations and agencies, is promoting an elm wood cleanup program to rid the area of elm bark beetles, the primary carriers of Dutch elm disease. The program was so successful last year that the campaign has now been enlarged to include communities outside of Metro Denver. It is hoped that the cleanup campaign during the month of March will occur on a state-wide basis.

Sanitation is Best Bet

Despite what you may have read in the newspapers or heard on radio or television, there still are no cures for Dutch elm disease. The best method a community can follow to reduce the spread of the disease is the tried and true intensive sanitation program. What this does is destroy the breeding sites of the European elm bark beetle. These beetles propagate in elm log stubs in trees and broken branches, in fact any elm that is in a weakened condition. Logs must be destroyed before the beetles emerge in spring because when they emerge they fly to healthy elm trees to feed, carrying the disease spores on their bodies. As they feed, some of the spores are rubbed off into the feeding wounds of healthy trees. A short time later, the disease spreads throughout the tree and the tree is a total loss.

Plan now to help your community this month in an intensive elm wood cleanup program. Posters, "Think Trees" bumper stickers and flyers instructing home owners on what to do are available to organized groups by calling 355-8306.

Getting Your Garden Ready

No one will argue that this has been a cold winter. It seemed to catch most of us unprepared last fall. No doubt there are many chores that went undone in the garden such as cleaning up the debris of last year's annuals and perennials. It is a good idea to get these jobs done now or as soon as weather permits rather than wait for spring. In this way you won't have all of the gardening chores come at you together. If the soil is not frozen in parts of your garden, why not get some exercise spading. There will still be freezing and thawing action which will break up the clods and result in a mellow soil ready to plant in the spring. If the ground is too frozen, this would be a good time to do a little pruning, not only of the tops of perennials but thinning some of the overgrown lilacs, honeysuckles, forsythia, etc.

Late Winter Pruning

Nearly all garden books advise pruning spring flowering shrubs like lilac and forsythia "immediately after bloom." The reason for this is that any *top pruning* will result in the removal of flower buds which were formed the previous year. The type of pruning that should be done now, however, is *not from the top* but a thinning of old canes at the soil line. Have you ever noticed that an overgrown lilac has more

problems with scale and lilac borers? Further, the flowers on the older canes are of poor quality. By thinning out the oldest canes at the ground each winter, you can maintain a healthier shrub, reduce insect infestations, keep it from becoming overgrown and, at the same time, have profuse bloom.

Indoor Gardening

You may wish to start some of your own seeds indoors to be ready to set out in May. This can be fun but at the same time often frustrating because of difficulties in finding a satisfactory location in the house where the seedlings will get ample light without becoming overheated. Home started plants also are seldom as satisfactory as those bought from bedding plant growers.

(Continued on back page)

The Second Annual Rose Symposium



The Second Annual Rose Symposium is scheduled for Saturday, March 17th, at 9:30 a.m. in Horticulture Hall. Last year's was well attended and those participating learned much about the cultivating and care of these beautiful flowers. We hope this year's will be even more successful. Some of the topics to be discussed are soil preparation, varieties to buy, and planting and care. Plan to attend and bring pencil and paper to take notes. Free.



Membership Dinner

This year's membership dinner will be an especially important event for Dr. Russell J. Seibert, the Director of the world famous Longwood Gardens of Kennett Square, Pennsylvania, will be our speaker. Dr. Seibert has received numerous honors throughout the years which testify to the high regard in which his profession holds him. As a student he received fellowships at the Arnold Arboretum and the Missouri Botanical Garden. Recently his outstanding ability has been recognized by the awarding of the Floriade Medal, International Horticultural Exhibition, Rotterdam. The Netherlands, 1960; Kirstenbosch Jubilee Medal, National Botanical Gardens, So. Africa, 1963; Frank N. Meyer Memorial Medal from the American Genetic Association, 1966; The Horticultural Society of New York - 1969 - Distinguished Service Award for Outstanding Contributions to the Advancement of Horticulture.

Come hear this distinguished scientist who will talk on "Air Pollution and Urban Horticulture". Get your reservations in now for the Membership Dinner, Thursday, March 15. Social hour 6-7 with dinner following at 7 p.m. \$5.75 per person.

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Mr. John C. Mitchell has announced the election of new members to the Board of Trustees:

- Mr. John R. Bermingham
State Senator
- Mrs. Donald C. Campbell
Active Community Leader
- Mr. O. Ben Haley, Jr.
Denver Wholesale Florist

★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★

The Colorado Gladiolus Society and the Denver Dahlia Society will have their annual "bulb" and tuber sale on March 31, from 10 - 4 p.m. in Horticulture Hall. This is a fine opportunity to buy recommended varieties, tested for Colorado growing. The Committee checks each corm individually to be sure they are in the best possible condition. All American varieties can be found here as can many old favorites.

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The Horticulture Club of Colorado State University is having a flower show, April 6-8. An international theme will be followed with gardens representing Oriental, Tropical American, Northern European, and Mediterranean areas. This promises to be the biggest college-sponsored flower show in the area. Plan to go. The hours are 10 a.m. - 9 p.m. in the National Guard Armory, 3324 W. La Porte Avenue, Ft. Collins. Adults \$1.50, children under 12, 75¢

PUT YOUR CHILD IN THE PICTURE

1973 CHILDREN'S GARDEN PROGRAM - Registration for beginning gardeners will be March 19 - 30. Children currently in 4th (or 9 years old), 5th or 6th grade are eligible. Forms will be mailed on request. Phone Beverly 297-2547.



Thank You, Mrs. Vittetoe!

Mrs. Irene Vittetoe, the Instructor in the Children's Garden for the last five years, has asked for a leave of absence. Those members who know Mrs. Vittetoe will not be surprised to learn that she has many projects in mind for her free time. Perhaps the most exciting is one she has hoped to do for years - a wild flower book for children. We are pleased to report she will remain active on the Children's Garden Committee and will give her encouragement and support to Mrs. Jane Denton who has accepted the position as Instructor.

CALENDAR OF EVENTS

MARCH - 1973

MARCH

[illegible]

***FOR MEMBERS OR ENROLLEES ONLY**

CALENDAR OF EVENTS - MARCH - 1973 (Continued)

MARCH

[illegible]

APRIL

2)	* 7:00 p.m.	Ed. Bldg. — Lecture Room A	Bonsai for Beginners — Mr. Geo. Fukuma
3)	* 10:00 a.m.	Ed. Bldg. — Herbarium Room	Herbarium Committee
3)	* 1:00 p.m.	Botanic Gardens House — Dining Room	Editorial Committee
3)	* 2:30 p.m.	Ed. Bldg. — Lecture Room A	“Local Flora Class” — Dr. Gambill
3)	* 7:00 p.m.	Ed. Bldg. — Lecture Room A	Floral Design Class — Mr. Ashley
3)	7:00 p.m.	Ed. Bldg. — Lecture Room B	Jr. Bonsai Club
3)	7:30 p.m.	Ed. Bldg. — Lecture Room C	Sierra Club — Environmental Education Seminar
3)	7:30 p.m.	Botanic Gardens House — Main Room	Colorado Mountain Club — Conservation
4)	9:00 a.m.	Botanic Gardens House — Parking Lot	PLANT LIFE FIELD TRIP — Dr. Brunquist
4)	* 1:30 p.m.	Ed. Bldg. — Horticulture Hall	Montclair Women’s Club Meeting — Tour — Program — Tea
4)	7:00 p.m.	Botanic Gardens House — Dining Room	Wild Life of Audubon Society
4)	* 7:30 p.m.	Ed. Bldg. — Lecture Room B	Cactus Club
5)	* 9:30 a.m.	Ed. Bldg. — Lecture Room B	Children’s Garden — Supervisors Committee Meeting
5)	* 2:30 p.m.	Ed. Bldg. — Lecture Room A	“Local Flora Class” — Dr. Gambill
5)	* 6:30 p.m.	Ed. Bldg. — Lecture Room C	Environmental Education — C.U. Mr. Chas. Holtzer
5)	* 7:00 p.m.	Ed. Bldg. — Lecture Room A	Floral Design Class — Mr. Ashley
5)	7:45 p.m.	Ed. Bldg. — Horticulture Hall	Denver Orchid Society
6)	* 4:00 p.m.	Ed. Bldg. — Lecture Room B	Children’s Garden — Jr. Supervisors Committee Meeting
7)	* 9:30 a.m.	Botanic Gardens House — Main Room	Gloxinia Gesneriad Growers

***FOR MEMBERS OR ENROLLEES ONLY**

CLASSES AVAILABLE

Remember the field trips with Dr. Brunquist have started. Join us on March 7th and 21st at 9 a.m. Meet in the parking lot of the House, 909 York and bring a sack lunch. Back by early afternoon.

Ernie Bibee, Superintendent of the Conservatory, will conduct a *House Plant Clinic* on March 8, class starting at 9 a.m., Classroom B. An opportunity will be provided for you to discuss any house plant problems you may have with this authority on this subject. Free.

Dr. William G. Gambill, Jr., the Director of the Gardens, will teach a junior level course for the University of Denver entitled *Local Flora*. This 4 quarter hour course will run from March 27 to June 1st from 2:30 – 5:30 p.m. in Classroom A. For further information please call 753-2284.

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The Denver Botanic Gardens has received information about *A Special Winter Experience*. This is planned as an ecological consideration of the winter environment of Rocky Mountain National Park. Winter field trip and survival techniques will be covered as will the flora and fauna in evidence during the winter months. Call Mr. Dwight Hamilton, Rocky Mountain Nature Association, Estes Park, Colorado, 80517. (More information later on the 1973 Summer Seminars offered by the Rocky Mountain Nature Association.)

Join the Green Revolution

Conquer your home with
Flower Power

Recruit your trowel and
enlist your watering can

Fight pollution in your
own backyard.



The public is cordially invited to GROWING GREEN AROUND THE HOME presented in the Botanic Gardens, Horticulture Hall, on Tuesday, March 13. Morning session 9 – 11:30. Repeat session in afternoon 1 – 3:30. \$1.00 Donation. Sponsored by the Consumer Education Task Force Committee of the Colorado Home Economics Association.

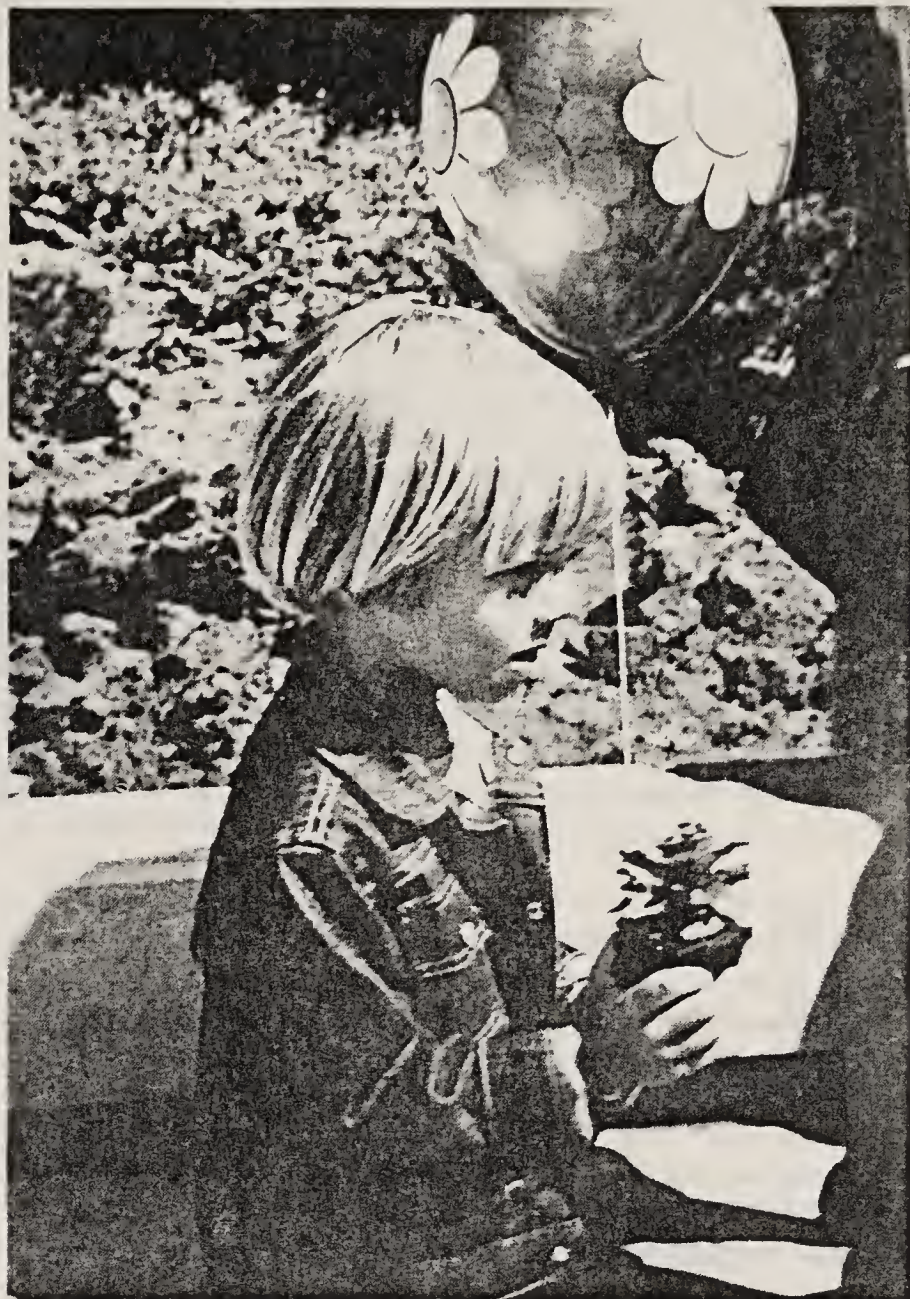
The program features three speakers: "Garden Indoors" by Mr. Ernest Bibee, Superintendent of the Conservatory, "Planning the Outdoors" by Mr. Andrew Knauer, Assistant Director of Botanic Gardens, and "Put it Together and Make it Grow" by Dr. James Feucht, Extension Associate Professor, Horticulturist. Ample time will be allowed for questions.

"Earth, our Teacher" a lecture by Roger Caras will be given at 8 p.m., March 2 at Phipps Auditorium. This is planned as a benefit for the Denver Zoo. Tickets available at the Downtown May-D&F ticket office.

Elizabeth Scholtz who was the Acting Director of the Brooklyn Botanic Garden has been appointed Director. She, therefore, becomes the only woman director of a major urban botanic garden in the United States. Our congratulations to her and to the Brooklyn Botanic Garden.

Donations still needed at the University Thrift Shop, 600 Ogden. Please take your items to the Shop and mention the Denver Botanic Gardens so that we will receive credit.

Get Ready for Plant Sale!! May 11 – 12, 1973



GIVE SOME BOOKS TO ADD SOME BOOKS to the Helen Fowler Library

Members of the Library Committee and the Volunteers who work in the Helen Fowler Library will have a book sale in conjunction with the plant sale, on May 11th and 12th to raise funds for additions to the collection. The Library depends almost completely upon the generosity of the Associates for funds for the purchase of new books. The Committee and Volunteers feel they also should make possible additional purchases and a book sale has been chosen as a means of earning supportive funds.

All of us have far too many books in our homes and many of us might be willing to contribute some of them for a sale which will benefit the Botanic Gardens Library. Won't you look at your collection and select a few books which you might be willing to contribute to such a project? These need not be in the horticultural category, though we're anxious to have as many as possible in this area. Fiction, mysteries, cookbooks, paperbacks of whatever nature, all have great appeal, and the special magazines like *Horticulture*, *Antiques*, *Gourmet*, *Audubon*, *Arizona Highways*, *Colorado Magazine*, etc. will be most welcome (but, please, don't give us *Time*, *Life*, and all the rest of the weekly magazines, or even some of the monthlies like *National Geographic*.)

Your contributions may be left at the Library, marked for the Book Sale, or if you'd like to have your donation picked up or have any questions, please call Mrs. Millard at 757-1046 or Mrs. Huggins at the Library, 297-2547, and arrangements will be made.

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GARDENING TIPS (Continued)

If you plan to start seeds indoors, make sure you have a location with ample light but away from radiators or other sources of artificial heat. Some seeds should not be started this early as they will tend to become too stringy before they can be set out in the yard. Those that can be started under the shorter day lengths include petunia, portulaca, snapdragon, salpiglossis, corn flower and gaillardia. Unless you are equipped to provide artificial light, wait to start marigolds, zinnias, cosmos and cockscomb until about the middle of April when the days are longer. These also tend to germinate quickly and do not need as long a period indoors. For further information on starting seeds indoors, request H&G Bulletin #91 from the author care of Denver Botanic Gardens.

Remember that March is a cleanup month, but pay special attention to the cleanup of elm wood.

Dr. J. R. Feucht

Our members will be sorry to learn of the death of Dr. John C. Johnson, an ex-officio member of the Board of Trustees and Colorado Conservationist of the Year, 1972. He was a founder and director of the Rocky Mountain Biological Laboratory at Crested Butte and very active in the Plains Conservation Center near Denver.

INTERESTING CLUBS TO JOIN

The Gloxinia Gesneriad Growers of Colorado are beginning a membership drive for 1973. Plants which are grown in the homes of members of this club were described in the summer 1972 issue of *The Green Thumb* in Miriam Denham's article, "Adventures of the Gesneriads."

If you are growing some of these exotic houseplants and want to learn more about them, or if you would like to begin a collection, join us the first Saturday of the winter months at 9:30 a.m. in the Botanic Gardens House. A free plant will be given to each new member during 1973. For information call the membership chairman at 355-4991, evenings.

The Around the Seasons Club has openings for a few new members. The club, which meets on the third Thursday at 10:00 a.m. in the Garden House, has programs relating to botany. Its members work for the Gardens particularly in connection with the Annual Plant Sale and the November Christmas sale. For further information, call Mrs. Campbell Robertson 444-5524, Membership Chairman.



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GARDEN TIPS FOR APRIL

THINK TREES! TALK TREES! PLANT TREES! Beginning with this issue, the Gardening Tips column will change slightly in that a plant-of-the-month will be featured. What better month to start than April, the month which nationally is devoted to tree planting and Arbor Day celebrations?

For some reason, perhaps because of World War II, Arbor Day was almost forgotten in Colorado though it was established by the 1884 Legislature. The third Friday of the month was designated. Let us revive it now!

Trees for Today and Tomorrow (TTT) was active in encouraging the cleanup of elm wood in March and distributed over 116,000 leaflets describing what the individual can do to prevent the spread of Dutch elm disease. (If you have not cleaned up your piles of elm wood, do it now before it is too late.) This organization is now turning to tree planting and rather than celebrating just one day as Arbor Day has designated the entire month as "Arbor Month." Why not plan to plant at least one tree or shrub in your yard this month or perhaps donate a plant to a school or church to be planted on or about the official Arbor Day.

We often receive questions on what tree to plant in a yard. Rather than answer this with a list of trees available in the area, it is better first to look at soil and site conditions. Trees should be considered as a permanent addition to any landscape. They should be selected just as carefully as one selects a home, a carpet or a piece of furniture. In fact, they should be selected with greater care because they will last longer than household items and appreciate rather than depreciate in value when properly cared for.

Before buying a tree, consider the following: (1) Space available. Unless you are planting near utility lines or other structures, height is not as important as the ultimate spread of the branches. Some tall trees can be used in small areas. (2) Soil and other site conditions. Most trees perform best in a well-drained soil. Surface runoff is less important than water movement through the subsoil. A heavy clay, even on a steep slope, is poorly drained. Such soils also have a low oxygen supply, reducing or preventing adequate root growth. (3) Pest problems. No tree is free of pests. Some, however, have fewer problems than others. (4) Growth rate and crotch angle. Everyone wants a fast-growing tree. Quick shade is highly desirable, but as a general rule the faster a tree grows the weaker the wood. With untimely heavy snows averaging at least one every five years, the more brittle trees should not be considered especially if they are placed near a street or dwelling. It is also true that trees having a narrow crotch angle have a weaker branch attachment. Trees with a combination of fast growth rate and narrow crotch angle are the weakest. A good example is the Lombardy poplar.

For more detailed information on selecting trees, request a free copy of "Selecting Trees for the Home Grounds," Pamphlet 43, from the author care of the Denver Botanic Gardens.

Tree of the Month

The swamp white oak, *Quercus bicolor* Willd., from its vernacular name, would seem an unlikely tree for the mountain

plains. Yet this species has performed well and, in fact, is one that seems to tolerate the irrigated heavy clay soils so common in the metropolitan area.

When one stops to think about it, its success in our heavy clay soils begins to make sense because a swamp species is a swamp species by its very ability to tolerate a low oxygen supply to the root system. Irrigated clay soil, then, is really the same as a swamp from the standpoint of soil atmosphere.

The swamp white oak is actually more common in the Denver area than one might think. There are some very nice specimens in the Denver Civic Center near the State Services Building, 16th and Sherman, and scattered throughout the town. Perhaps the best are those located at Fairmount Cemetery. The largest is about 50' tall and a trunk diameter of 25". At the old Weber Nursery in Arvada, this species has actually become naturalized, with numerous seedlings cropping up here and there.

While this tree is not as readily available as some of the more common types, a few nurseries are handling it. Use the yellow pages to shop and you should be able to locate one. Demand eventually results in supply!

Think trees! Talk trees! Plant trees! this month.

—Dr. J. R. Feucht

INTERESTING CONVENTIONS

The National Convention of the Audubon Society will be held in Denver at the Hilton Hotel from June 7-11, 1973. Many exciting plans have been made including field trips, an exhibit of wildlife and scenic art, and prize-winning nature photographs. The program theme *Public Lands: Margin of Environmental Quality* will be discussed in several major addresses by such speakers as Senator Floyd Haskell; Nathaniel Reed, Assistant Secretary of the Interior; Burton Silcock, Bureau of Land Management Director; Roger Contor, Superintendent of Rocky Mountain National Park and Charles Luce, National Water Commission.

AND ALSO . . .

The first International Congress of Systematic and Evolutionary Biology will meet at the University of Colorado from Saturday, August 4 to Sunday, August 12, 1973.

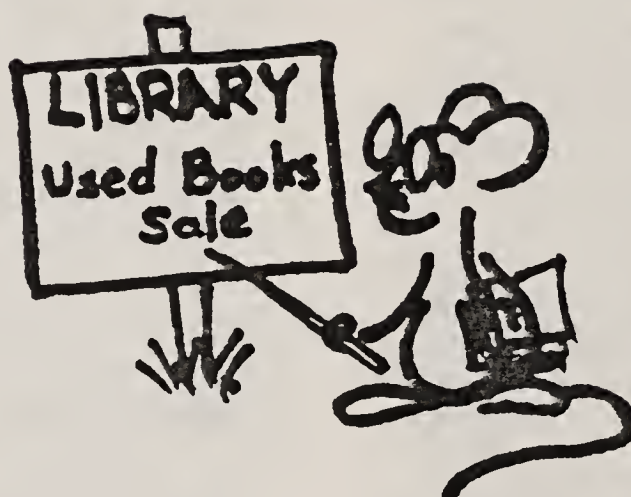
This organization is intended to provide a common meeting ground for botanists and zoologists interested in the above disciplines. The program has been divided into four segments: 1) Symposia with such topics as Evolutionary Biology of Populations, Numerical Taxonomy and Ecological Substructure of Natural Communities; 2) Special Interest groups; 3) Environmental Symposium with papers on the Evolution of Biotic Communities and 4) Contributed Papers.

Field trips to view various habitats from short-grass prairies to the tundra of the Continental Divide, will also be scheduled for the participants.

For further information, please contact: Dr. Doris Love, Local Chairman I.C.S.E.B., Department of Biology, University of Colorado, Boulder 80302.



25th Annual Plant Sale



May 11-12
9:30 to 5:30



and Ravia's mouse is energetically supporting the Plant Sale, May 11 and 12, 9:30 a.m. — 5:30 p.m.! *and please DON'T HESITATE TO VOLUNTEER FOR THE PLANT SALE!*

We need help from A "Annuals" to Z — Zea Mays "Vegetables" and all letters in between. If you'd like to work, we'd like to hear from you. Please call 297-2547 ext. 23 to find out areas that you might enjoy and please bring clay pots to the Education Office by April 15.

AND . . .

Now is the time for all generous gardeners to look over surplus seedlings or to divide perennials for sharing at the Home Donation Booth during Plant Sale. Please put the plants in clay or plastic pots, or cut down milk cartons, coffee cans or cottage cheese cartons also can be suitable. (Also clay pots themselves are good items for sale!) Please leave the items marked "Home Donations" at the back door of the Conservatory on May 9 or 10.

CALENDAR OF EVENTS

MAY — 1973

MAY

1)	* 10:00 AM	Ed. Bldg., — Herbarium	Herbarium Committee
1)	* 1:00 PM	Botanic Gardens House — Dining Room	Editorial Committee
1)	* 2:30 PM	Ed. Bldg., — Lecture Room "A"	Local Flora — Dr. Gambill
1)	* 7:00 PM	Ed. Bldg., — Lecture Room "A"	Floral Design Workshop — Mr. Ashley
1)	7:00 PM	Ed. Bldg., — Lecture Room "B"	Jr. Bonsai Club
1)	7:00 PM	Botanic Gardens House — Dining Room	Wild Life Committee of Audubon Society
1)	7:30 PM	Botanic Gardens House — Main Room	Colorado Mountain Club — Conservation
1)	7:30 PM	Ed. Bldg., — Lecture Room "C"	Sierra Club
2)	9:00 AM	Botanic Gardens House — Parking Lot	PLANT LIFE FIELD TRIP — Dr. Brunquist
2)	* 9:00 AM	Botanic Gardens House — Main Room	D. B. G. Guild
2)	* 3:30 PM	Ed. Bldg., — Lecture Room "C"	Children's Garden Meeting — Advanced Group
2)	7:30 PM	Ed. Bldg., — Lecture Room "C"	Colorado Mycological Society — Workshop
2)	* 7:30 PM	Ed. Bldg., — Lecture Room "B"	Rocky Mountain Succulent Society
2)	7:30 PM	Botanic Gardens House — Main Room	"Garden Perennials" — Mr. H. Kuesel
3)	* 2:30 PM	Ed. Bldg., — Lecture Room "A"	Local Flora — Dr. Gambill
3)	7:00 PM	Ed. Bldg., — Lecture Room "B"	Colorado Ecology Academy
			(Meeting to show slides and organize a wilderness pack-in for summer).
3)	* 7:00 PM	Ed. Bldg., — Lecture Room "A"	Floral Design Workshop — Mr. Ashley
3)	7:45 PM	Ed. Bldg., — Horticulture Hall	Denver Orchid Society
4)	* 11:00 AM	Botanic Gardens House — Main — Dining Room — Kitchen	Civic Garden Club of Denver — President's Tea
5)	8:30 AM	OPENING DAY FOR CHILDREN'S GARDEN	BEGINNERS ONLY
5)	9:00 AM	Ed. Bldg., — Lecture Room "C"	"Something New in Peonies" — Mr. Casey O'Donnell
5)	9:30 AM	Botanic Gardens House — Main Room	Gloxinia Gesneriad Growers

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7)	* 9:00 AM	Ed. Bldg., — Horticulture Hall	Ikebana International
8)	* 9:00 AM	Ed. Bldg., — Horticulture Hall	Ikebana International Workshop
8)	* 9:00 AM	Ed. Bldg., — Lecture Room "A"	Class in House Plants — Mr. Herb Gundell
8)	9:00 AM	Botanic Gardens House — Main Room	"We Care", Environmental Group
8)	* 2:30 PM	Ed. Bldg., — Lecture Room "A"	Local Flora — Dr. Gambill
8)	* 4:00 PM	Botanic Gardens House — Dining Room	Executive Committee Meeting
8)	* 7:00 PM	Ed. Bldg., — Lecture Room "A"	Floral Design Workshop — Mr. Ashley
8)	7:30 PM	Ed. Bldg., — Lecture Room "B"	Sierra Club
8)	7:30 PM	Botanic Gardens House — Main Room	Colorado Mountain Club — Conservation
9)	7:00 PM	Ed. Bldg., — Lecture Room "C"	Colorado Mycological Society — Workshop
9)	* 8:00 PM	Botanic Gardens House — Dining Room	Landscape Industry Council
10)	* 9:00 AM	Ed. Bldg., — Lecture Room "A"	Class in House Plants — Mr. Herb Gundell
10)	* 2:30 PM	Ed. Bldg., — Lecture Room "A"	Local Flora — Dr. Gambill
10)	* 7:00 PM	Ed. Bldg., — Lecture Room "A"	Floral Design Workshop — Mr. Ashley
10)	8:00 PM	Botanic Gardens House — Main — Dining Rooms — Kitchen	Denver Rose Society
11)		Ed. Bldg., — D. B. G. PLANT SALE	OPEN TO PUBLIC — 9:30 AM - 5:30 PM
11)	7:30 PM	Botanic Gardens House — Main Room	Denver Dahlia Society
12)		Ed. Bldg., — D. B. G. PLANT SALE	OPEN TO PUBLIC — 9:30 AM - 5:30 PM
12)	10:00 AM	Botanic Gardens House — Main Room	Organic Soil & Food Association

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14)	* 3:30 PM	OPENING DAY FOR CHILDREN'S GARDEN	ADVANCED GROUP ONLY
14)	7:30 PM	Ed. Bldg., — Lecture Room "B"	Regional Transportation Development
14)	7:30 PM	Ed. Bldg., — Lecture Room "C"	Colorado Mycological Society
15)	7:00 AM	Ed. Bldg., — Lobby	School Board Election
15)	* 9:00 AM	Ed. Bldg., — Lecture Room "A"	Class in House Plants — Mr. Herb Gundell
15)	* 2:30 PM	Ed. Bldg., — Lecture Room "A"	Local Floral — Dr. Gambill
15)	* 7:00 PM	Ed. Bldg., — Lecture Room "A"	Floral Design Workshop — Mr. Ashley
15)	7:00 PM	Ed. Bldg., — Lecture Room "B"	Jr. Bonsai Club
15)	7:00 PM	Ed. Bldg., — Horticulture Hall	Sierra Club
15)	7:00 PM	Botanic Gardens House — Dining Room	Audubon Society
15)	* 7:30 PM	Botanic Gardens House — Main Room	African Violet Council
16)	9:00 AM	Botanic Gardens House — Parking Lot	PLANT LIFE FIELD TRIP — Dr. Brunquist
16)	7:00 PM	Ed. Bldg., — Lecture Room "C"	Colorado Mycological Society — Workshop
16)	7:30 PM	Ed. Bldg., — Horticulture Hall	Zero Population Growth
17)	* 9:00 AM	Ed. Bldg., — Lecture Room "A"	Class in House Plants — Mr. Herb Gundell
17)	* 10:00 AM	Botanic Gardens House — Main Room	Around the Seasons

CALENDAR OF EVENTS — MAY - 1973 (Continued)

17)	* 2:30 PM	Ed. Bldg., — Lecture Room "A"	Local Flora — Dr. Gambill
17)	* 7:00 PM	Ed. Bldg., — Lecture Room "A"	Floral Design Workshop — Mr. Ashley
17)	7:30 PM	Ed. Bldg., — Lecture Room "B"	Organic Gardening Club
17)	8:00 PM	Ed. Bldg., — Horticulture Hall	Colorado Mountain Club — Program
18)	7:30 PM	Ed. Bldg., — Lecture Room "A"	Colorado Bonsai Club
18)	7:30 PM	Ed. Bldg., — Herbarium	Botany Club
19)	9:00 AM	Ed. Bldg., — Lecture Room "B"	"Summer Care of Roses" — Mr. Ross Lahr & Mr. Myron Nixon
19)	9:30 AM	Ed. Bldg., — Lecture Room "A"	A. C. E. Board Meeting
19)	*10:00 AM	Botanic Gardens House — Main Room	Ballaret Council

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21)	*10:00 AM	Botanic Gardens House — Dining Room	House Committee Meeting
22)	* 9:00 AM	Ed. Bldg., — Lecture Room "A"	Class in House Plants — Mr. Herb Gundell
22)	* 2:30 PM	Ed. Bldg., — Lecture Room "A"	Local Flora — Dr. Gambill
22)	* 4:00 PM	Botanic Gardens House — Conference Room	Board of Trustees Meeting
22)	* 7:00 PM	Ed. Bldg., — Lecture Room "A"	Floral Design Workshop — Mr. Ashley
22)	7:30 PM	Ed. Bldg., — Lecture Room "B"	Sierra Club — Environmental Education
22)	7:30 PM	Ed. Bldg., — Lecture Room "C"	Gladiolus Society
23)	7:00 PM	Ed. Bldg., — Lecture Room "C"	Colorado Mycological Society — Workshop
23)	7:00 PM	Ed. Bldg., — Lecture Room "B"	Colorado Ecology Academy
24)	* 9:00 AM	Ed. Bldg., — Lecture Room "A"	Class in House Plants — Mr. Herb Gundell
24)	* 9:30 AM	Ed. Bldg., — Lecture Room "B"	Southern Hills Gardeners
24)	* 2:30 PM	Ed. Bldg., — Lecture Room "A"	Local Flora — Dr. Gambill
24)	* 7:00 PM	Ed. Bldg., — Lecture Room "A"	Floral Design Workshop — Mr. Ashley
24)	7:30 PM	Ed. Bldg., — Lecture Room "B"	Capitol Hill United Neighborhood
24)	7:30 PM	Botanic Gardens House — Main Room	Men's Garden Club
24)	7:30 PM	Botanic Gardens House — Dining Room	Audubon Society
26)	8:00 AM	Ed. Bldg., — Horticulture Hall	Bonsai Club Show — OPEN TO PUBLIC 9:00 AM - 5:00 PM
26)	9:00 AM	SPRING OPENING OF THE OUTSIDE GARDENS	
27)	8:00 AM	Ed. Bldg., — Horticulture Hall	Bonsai Club Show — OPEN TO PUBLIC 9:00 AM - 5:00 PM

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29)	* 2:30 PM	Ed. Bldg., — Lecture Room "A"	Local Flora — Dr. Gambill
29)	* 7:00 PM	Ed. Bldg., — Lecture Room "A"	Floral Design Workshop — Mr. Ashley
29)	7:30 PM	Botanic Gardens House — Main Room	Colorado Mountain Club — Photo Section
30)	9:30 AM	Ed. Bldg., — Lecture Room "A"	Hi Hopes Study Club
30)	7:30 PM	Ed. Bldg., — Lecture Room "C"	Colorado Mycological Society
31)	* 2:30 PM	Ed. Bldg., — Lecture Room "A"	Local Flora — Dr. Gambill
31)	* 7:00 PM	Ed. Bldg., — Lecture Room "A"	Floral Design Workshop — Mr. Ashley
31)	8:00 PM	Ed. Bldg., — Horticulture Hall	Colorado Mountain Club — Program

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JUNE

2)	1:00 PM	Ed. Bldg., — Horticulture Hall	Iris Society Show — OPEN TO PUBLIC 1:00 - 6:00 PM
3)	9:00 AM	Ed. Bldg., — Horticulture Hall	Iris Society Show — OPEN TO PUBLIC 9:00 - 5:00 PM
5)	*10:00 AM	Ed. Bldg., — Herbarium	Herbarium Committee
5)	* 1:00 PM	Botanic Gardens House — Dining Room	Editorial Committee
5)	* 7:00 PM	Ed. Bldg., — Lecture Room "A"	Floral Design Workshop — Mr. Ashley
5)	7:00 PM	Ed. Bldg., — Lecture Room "B"	Jr. Bonsai Club
5)	7:00 PM	Botanic Gardens House — Dining Room	Wild Life Committee of Audubon Society
5)	7:30 PM	Botanic Gardens House — Main Room	Colorado Mountain Club — Conservation
5)	7:30 PM	Ed. Bldg., — Lecture Room "C"	Sierra Club — Environmental Education
6)	9:00 AM	Botanic Gardens House — Parking Lot	PLANT LIFE FIELD TRIP — Dr. Brunquist
6)	* 7:30 PM	Ed. Bldg., — Lecture Room "B"	Rocky Mountain Succulent Society
7)	* 7:00 PM	Ed. Bldg., — Lecture Room "A"	Floral Design Workshop — Mr. Ashley
7)	* 7:00 PM	Ed. Bldg., — Lecture Room "B"	"Techniques of Propagation" — Mr. Knauer
7)	7:45 PM	Ed. Bldg., — Horticulture Hall	Denver Orchid Society
8)	7:30 PM	Botanic Gardens House — Main Room	Denver Dahlia Society
9)	9:00 AM	Ed. Bldg., — Lecture Room "B"	"Insect & Disease Prevention" — Helen Rose Machin
9)	10:00 AM	Ed. Bldg., — Lecture Room "A"	Organic Soil & Food Association

JUNE 9 - 25 COLORADO WATER COLOR ASSOCIATION

* FOR MEMBERS OR ENROLLEES ONLY

GARDENING TIPS FOR MAY

Nobody needs to be reminded that this has been a snowy, cold winter. With snow on the ground for so many days since November, few gardeners have had a chance to do much in the yard. With the arrival of warm weather, one of the first chores will be to clean up the debris that was left last fall, including tops of perennials. (This warning was given last January, but there was no opportunity to follow it.)

Hopefully, you did have a chance to follow earlier advice to prune trees and shrubs so you won't have to be bothered with this chore now. There are many more important things to do.

One of the most important is to cultivate the soil where you intend to plant your annuals and perennials. If your soil is a bit on the heavy side, it pays to add some coarse organic matter such as compost, leaf mold, coarse sphagnum peat or well-rotted barnyard manure. Success in growing annuals and perennials is dependent on good aeration and drainage for the root systems. It is almost impossible to overdo aeration and drainage in most of the soils in this area. If the soil is very sandy, organic matter will help to hold water thus preventing it from washing down from below the root system where it would be wasted. Where heavy clay is prevalent, organic matter will separate the particles, allowing air and water to move down thus providing the proper environment for root growth.

Colorful New Annuals

As is the case every year, there are many new annuals reaching the market. Some of the most notable include alyssum 'Navy Blue', which is much darker than 'Royal Carpet' and should make an excellent edging plant. For an even deeper color, look for the variety 'Oriental Night'.

Among the easy-to-grow annuals, the celosia or cockscomb will give brilliance in the garden. For new types, all that include the name 'Empress' are Crimson, Gold, Rose and Orange. Another brilliant plant, which is also a silver medal winner among All America Selections, is zinnia 'Peter Pan Scarlet'. This plant is 18 inches tall with flowers 3 to 4 inches across.

While there are many new introductions of petunias, none of them really seem to be much in the way of improvements over previous introductions. Some of the tried-and-true types such as 'Comanche', 'Red Cascade', 'White Cascade', 'Sea Foam' and 'Cherry Tart', still seem to be as satisfactory to me. In any case, if you shop around you should find an abundance of colorful flowers for the garden.

Visit the Botanic Garden's Plant Sale May 11 and 12 for all the color you need — not just annuals but in perennials, trees, shrubs and house plants.

Tussock Moth Control

If you have blue spruce or concolor fir in your yard, be on the lookout for signs of tussock moth damage. The damage is caused by a tiny, fuzzy caterpillar chewing the foliage, usually at the tops of the trees. Early signs are an abundance of partially chewed bits of young needles around the base of the tree as well as droppings from the caterpillars.

The latter part of May or early June is the time to look.

Control must be applied promptly or you may lose the top of the tree. For large trees, consult your local arborist. On trees small enough to reach with your own equipment, two applications of Malathion, 7 to 10 days apart, at the time you first see the caterpillars will generally take care of them. Dilute the chemical according to directions on the label.

If you live in an area where tussock moth has been prevalent in the past, it is imperative that controls be applied correctly and at the proper time. If you notice the tops of spruce denuded in your area, you can assume your trees are also vulnerable and can be the next target. Consult your commercial arborist for appropriate control measures.



Plant of the Month

English oak, *Quercus robur*. The English oak may seem to be a strange tree to feature for Colorado, yet it is actually a "pioneering" tree in that several were planted in the early 1900's in the Denver area. Many of these have done quite well for over 70 years despite the vagaries of weather.

The foliage of English oak is relatively small in size for oaks, averaging 2½ to 3 inches in length, with shallow, rounded lobes along the margins. The key identifying feature of the leaf is the "eared" base of the blade.

The English oak is a strong tree, moderate in growth rate, and seems to adapt to all but the very heavy and alkaline soils. If there is a fault in this tree it would be the fact that it tends to be semi-evergreen, the leaves sometimes remaining on the tree, brown in color, during the winter. This trait, however, is also true of many species of oak.

For the skeptic; you might wish to view some excellent specimen plants in the Denver metropolitan area, including a 40-foot tall specimen on the southwest corner of South High School, a 70-foot specimen (42" D.B.H.) in Block B of Fairmont Cemetery, where there are many other examples, and a cluster of four nicely shaped trees just off the entrance to Esplanade in City Park.

Dr. J. R. Feucht



"All the plants you always wanted and thought you couldn't get" sums up this silver anniversary of the Annual Plant Sale, May 11 and 12, 9:30 to 5:30.

Yearn to Learn? Everlastings and Bonsai demonstrations are new this year. An exhibit of everlasting, such as statice, strawflowers, and babysbreath, will be on display and directions for drying and tips on care will be available.

Plant Booths

Annuals: From ageratum to verbena, the best annuals suited to this area have been selected for their performance in Denver's Parks and Gardens.

Berry Basket offers Ogallala strawberries, one of the best for this area; rhubarb, raspberries, grapes and currants.

Children's Corner. Little people look forward to buying little plants at little prices in their private corner. Peanut cactus, Marietta marigolds, Johnny jump ups, pansies and maternity plants fascinate children.

Geraniums, Patio Plants and Hanging Baskets occupy a separate booth. Most popular are Martha Washington pansy geraniums, clusters of lavender — purple blossoms with pansy-like faces.

Herbs and Vegetables. Thirty-five kinds of annual or perennial herbs as well as pre-started window planters can be found here. Many kinds of vegetables, too!

Home Garden Donations. Generous gardeners share their plants and bargains galore are always found at this booth.

House Plants. A few among the many plants for sale here include ferns (large and small), azalea, bromeliad, cactus, camelia, hibiscus, kangaroo vines (for the first time), kalanchoe and orchids.

African Violets in bloom and wrapped for Mother's Day gifts are donated and sold each year by members of the Rocky Mountain African Violet Council. And Gloxinia and Gesneriad Growers will share their favorite selections of young plants as well as showy pot plants.

Perennials. Plants for sun or shade or unusual conditions. Named varieties of old favorites: peony, oriental poppy, shasta daisy, daylily, phlox and chrysanthemum.

Rock Garden Plants and Ground Covers. Native wildflowers and ground covers are emphasized here. Rocky Mountain columbine will be offered singly or in boxes by the

dozen (grown from special seed collected by an experienced columbine hobbyist.)

Trees and Shrubs again will promote Colorado natives as well as some of the best woody plants to add character and individuality to landscape plantings.

Gift Shop will offer latest books on gardening, wild flowers, trees, houseplants as well as the original art work from *Land Above the Trees*, which was nominated for the National Book Award.

Gift Shop Annex invites visitors to browse among the selections. Included are planters for the patio, porch or gardenroom. Pots take on a new personality when hung with macrame, leather or wrought iron hooks.

Book Nook. "Buy a book to buy a book" is the word from the Library Volunteers, who take pride this year in offering old books (1832 is the oldest) to some recently published and many in-between. Categories include horticulture, art, childrens, travel, novels and mysteries and lots more.

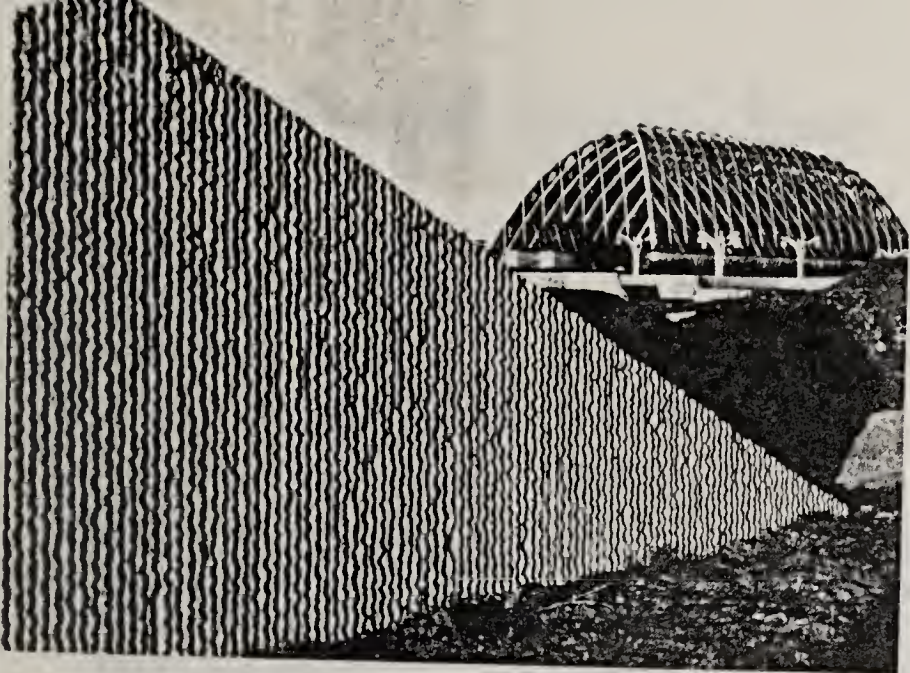
And The Garden Club of Denver has planted the Lobby Court display to feature dry land plants especially suitable for our climate. Look over the examples, decide what might be right in your garden, and then go buy the plants at the appropriate booth!

GOOD NEWS!

The city council has approved the lease for the Chatfield Property. Now it must be signed by Mayor McNichols and forwarded to the Corps of Engineers for their action. After years of planning and hoping, it appears as if the dream of the Chatfield Arboretum and Nature Preserve is becoming a reality. (More information in the next *Green Thumb!*)

FAR EASTERN GARDEN TOUR FALL, 1973

Plans are rapidly taking place for the Garden Tour of Japan, Taiwan, and Hong Kong of Botanic Garden members. Watch for a detailed announcement brochure in the next few days from Travel Associates, Inc. who will handle the tour. The earlier show of interest on the part of our members was sufficient to indicate the tour will become a reality!



SPRING OPENING

The spring opening for the new gardens is set for May 26, 1973. Many of the areas are still under construction but we want our friends to see the progress that has been made. It is hoped that the iris that were planted last year will be in bloom and the Garrison frieze will also be in place. The frieze, consisting of 43 tiles executed by the late Robert Garrison of Denver, comes from the downtown Midland Federal Savings Building. It recounts the story of a farmer who brings his family west; hunts the buffalo; is attacked by Indians; rescued by the cavalry; and finally settles in Colorado. This is displayed near the Plains Garden at the west of the new area.

The outside gardens will be open throughout the summer although some areas will have to be restricted to visitors as the work goes on!

AND TOO!

News has been received of a non-credit class on *House Plants* to be taught at the Denver Botanic Gardens on Tuesdays and Thursdays from May 8 to the 24th. This course, offered by the Community College of Denver, Auraria Campus and taught by Herb Gundell, will be held in Classroom A from 9 - 11 a.m. For further information, please call Mrs. Collier, 266-1881.

Again this year The Rocky Mountain Nature Association will offer *Seminars in Rocky Mountain National Park*. They will be on such subjects as Rocky Mountain Ecosystems with Dr. Beidleman of Colorado College; Mountain Ecology, Dr. Ferchau, Western State College; Alpine Ecology, Dr. Osborn, Ecologist, U. S. Atomic Energy Commission; and Plant Identification, Dr. Gambill, Director of Denver Botanic Gardens.

Registration forms and further information may be obtained by writing or phoning:

Dr. Dwight Hamilton
Rocky Mountain Nature Association, Inc.
Estes Park, Colorado 80517
(303) 586-3259

Closing date on registration, June 1, 1973.

REMINDER

Casey O'Donnell will show slides and explain about *peonies* on May 5 at 9 a.m. in Classroom C. (Please note the room change from the Spring List of Classes.) Also *The Summer Care of Roses* will be discussed May 19 at 9 a.m. in Classroom B. Both free. Those people who plan to participate in the *Field Trip to the Pawnee Grasslands*, June 2, may be interested in visiting the Library before the trip. Information on this area is on file there. Also please call for reservations before May 30 since enrollment is limited to 15 people. Our members who live north of Denver may prefer to meet the group at Crow Valley Park at Briggsdale at 9 a.m. Take Highway 14 out of Ault.



"Perennials Supreme" will be the theme for an illustrated slide lecture by Harry B. Kuesel, Regional Vice President of the American Hemerocallis Society at 7:30 p.m., Wednesday, May 2 at the Denver Botanic Gardens House, 909 York. Many have seen the pictures of irises and daylilies in the gardens of Paul and Louise Watts, famous horticulturists, in the *Time Life Encyclopedia on Perennials* published early this year. The main part of the program will feature a kaleidoscope of color starting with the daffodils in early spring, and showing the use of flowering trees, our native blue spruce and unusual shrubs as a backdrop for irises and daylilies which dominate their spring and summer garden. Slides will be shown of many of the latest creations of noted hybridizers — Steve Moldovan, Orville Fay, Bill Munson, W. B. MacMillan, Drs. Richard and Virginia Peck, Frank Childs, and Brother Charles Reckamp. Every color from the palest near whites to the darkest reds and violets will be shown. We suggest you come on out and see what our own Botanic Gardens will look like in this unique preview.

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FOR YOUR INFORMATION . . .

Additional hemerocallis have been promised for the display gardens. When they are received, they will be planted in two beds which now contain a small planting of spuria iris.

An 8" caliber burr oak was planted in March. This gift from Mrs. Viola Swingle is certainly appreciated.

A device has been installed in Horticulture Hall which will allow the room to be completely darkened. A motor, mounted in the ceiling, will hoist a parasol made of vinyl material, into place. This parasol, dark on the topside but white on the bottom, conforms to the curvature of the ceiling and fits tight against the concrete beams of the roof.

One of the most interesting shows of the season, that offered by the Bonsai Club, will be May 26 and 27, Horticulture Hall, 9 a.m. to 5 p.m.

The Denver Chapter of Ikebana International will sponsor a Japanese flower arranging demonstration by Mr. Shuko Kobayashi of San Francisco on Monday, May 7, at 1 p.m. in Horticulture Hall.

Mr. Kobayashi is a master of the Sogetsu School of Tokyo, Japan.

Tickets are limited at \$3.00 each. They may be purchased from any Ikebana International member or by calling Mrs. Thomas Petty at 377-0773.

MAY TO BE LILAC TIME IN BOSTON

Lilac lovers from Europe, Canada and the United States will converge on Boston May 25-26 for the second convention of the International Lilac Society. Hosting the meeting of the International Lilac Society is Harvard University's celebrated Arnold Arboretum.

The conference theme is "*Lilacs in the Contemporary Landscape*." Plans are being made to visit the world-famous lilac collection at Jamaica Plain, Massachusetts, and the less-well-known lilac collection at the Case Estates in Weston, both gardens part of the Arnold Arboretum.

Our thanks to all the people who called inquiring about the editorship of *The Jolly Green Gardener*. We are pleased to announce that Eileen Bloustein will serve in this capacity and is already hard at work on the June issue of this publication.

A large bottle garden is fast becoming a landmark at the Denver Botanic Gardens. It is located in a north window of the library where it has stood for almost three years. It was made by Mrs. Helen D. Stanley, a volunteer, in July of 1970 and has flourished like the proverbial green bay tree. Children on tours and the general public gaze at its loveliness and wonder aloud "how all those plants got in there." Thirteen tiny plants were used, among them, aluminum plant, red striped wandering jew, begonia, artillery plant, small leafed ivy, dracaena, small ferns and boxwood. The garden creates its own weather and has never been watered. The children say it "rains" inside the bottle.



Green Thumb Newsletter is published monthly by Denver Botanic Gardens, Inc., 909 York Street, Denver, Colorado 80206. The Newsletter is included as a benefit of membership in the Denver Botanic Gardens, regular membership dues being \$7.50 a year. Items for publication are welcome. The deadline for copy to the editor is 2:00 p.m. on the 15th of each month preceding publication. Editor — Margaret Sikes, 297-2547, Ext. 23.



GARDENING TIPS FOR JUNE

After a belated spring we should now be able to safely say that the growing season is under way. From the standpoint of insects in the garden, the delay has been both beneficial and a disadvantage. Indications are that leaf roller damage will be slight, at least in most regions, but other insects including the tent caterpillar, oyster shell scale and tussock moth, were probably not at all affected by the severe winter. On the other hand, the elm leaf beetle — the one that skeletonizes leaves of all types of elms — could be substantially reduced this year because this insect overwinters as an adult. The elm bark beetle, the one that carries Dutch elm disease, unfortunately seems to have been little affected by the cold weather. In fact, a log used for display purposes, which measured about 10" in diameter and 12" in length, reared over 1580 beetles! This shows the importance of cleaning up and destroying dead and dying elm wood on a *year round basis*.

Watch for Tussock Moth

Of immediate concern, particularly for those who own large spruce, concolor fir and Douglas fir, is the tussock moth. This insect normally hatches from eggs the latter part of May or the first week or so in June. The tiny, fuzzy caterpillars begin feeding at the tops of the evergreens, choosing the first succulent new growth, then later feeding even on the older needles. Because they are so small and are usually located at the tops of tall trees, they often go unnoticed until it is too late. Begin to look now for signs of feeding of this insect. Trees that are heavily infested will have quantities of droppings at the base along with bits of fresh green needles. To see them more easily, place a piece of white paper, weighted down with a stone, beneath the tree for a day or two and observe the amount of droppings or other debris.

If you should have a tussock moth infestation, control should be applied promptly. It is important to have the proper spray equipment because it must be capable of reaching the very top. Small trees can be protected with the common, home variety of spray gear, but larger trees are best sprayed with commercial arborist equipment. The chemical to use will vary to some extent with the size of the caterpillars at the time spray is applied. If the caterpillars are caught early enough, 1/4" or less in size, Malathion or Diazinon will do the job. Since Malathion has only a 24 hour residual effect, the trees will need to be re-sprayed two or three times at 7-10 day intervals to catch any overlap. Advance stages of infestation, where the caterpillars are much larger in size, require stronger chemicals and should be treated by a professional sprayman. Trees that have been caught in time will usually replace the growth that was lost. Heavy infestations occurring two years in a row usually result in a loss of the top of the tree. If you are interested in seeing how devastating the insect can be, take a drive along Colorado Boulevard between 1st and 8th Avenues and look at the sad condition of many blue spruce, our State Tree.

Oyster Shell Scale

About 50 different types of trees and shrubs are attacked by oyster shell scale. Actually, there are two types of scale — gray and brown. The gray race has only one generation a year and the eggs should be hatching about this time. Control can be obtained with weekly applications of most any garden insecticide but the best would be Malathion or Diazinon. The brown race also should be hatching now but will have a second generation in mid- to late July. Mark your calendar to watch for the crawler stages of the brown race, particularly if you have lilacs, ash, shrub dogwood or euonymus as these are the most frequently attacked.

Unfortunately, there are no satisfactory biological controls for insects mentioned in this column. Allowing populations to build up in hopes that a biological or natural control will keep them down usually results in severe injury or even loss of the plants.



Plant of the Month

Cutleaf Weeping European Birch is the feature this month. This tree has proved to be very popular with the gardener because of its striking papery-white bark and graceful weeping habit. It is most effective when planted in groups of three or more but can also be displayed as a single specimen in an open lawn situation. The tree is quite hardy in most regions of Colorado. Its chief enemy is winter drought. This past winter has not been a problem because soil moisture levels were well above normal. The previous four winters, however, have been hard on the European Birch. Low soil moisture levels in winter usually result in a dieback later in the summer. This is a result of root loss and has nothing to do with cold. Normal lawn watering in summer usually will suffice but avoid overwatering, particularly if the soils are on the heavy side. Overwatering in a heavy soil will result in oxygen starvation of the roots. Keep the lawn away from the trees and apply a mulch such as wood

(Continued on back page)



Annual Iris Show — June 2 - 3

The American Iris Society-Region 20 — which covers the whole state of Colorado will sponsor an iris show at the Denver Botanic Gardens on June 2 and June 3 at Horticulture Hall. The show is open to the public from 1:30 to 6:00 p.m. on Saturday — the 2nd. And it will reopen at 10:00 a.m. and continue till 6 p.m. on the following day.

It is a rare Colorado gardener who does not have an iris or two planted in his yard. Any amateur grower can enter but must bring his or her stalks to the garden by 10 a.m. on Saturday, June 2 to qualify for the many ribbons, rosettes and medals awarded to the various winners. The Theme of the Show will be "OUR PAST, PRESENT, AND FUTURE".

The artistic division of the show will feature a very interesting contest between many of the local garden clubs who are competing for a meritorious award and a \$25 cash award for the best exhibit of artistic achievement using irises in the design.

Advance copies of the complete show schedule can be obtained from Mrs. Tom Johnson, 1858 So. Downing in Denver 80210 (phone 733-7520) or Mr. Ray D. Lyons, Show Secretary.

Mrs. S. G. Merritt, and Mrs. Fred Ferguson will be in charge of entries for the horticultural section which includes 38 different color classes as described in the AIS Color Classification covering the whole range of irises from the most familiar tall bearded to arils and arilbreds, oncocyclus, regelias and their hybrids, beardless including siberians, spurias etc. There will be a division for standard dwarf, intermediate and miniature tall bearded (or table irises too).

A separate division has been set up for hybridizers to exhibit unnamed and unintroducted seedlings and finally a division for 22 classes for students and teenagers.

Mark the dates on your calendar now and come on out.

Ms. Solange Huggins, recently returned from the Annual Conference of Botanical and Horticultural Librarians in Toronto. Ms. Huggins, who was on the program as a panelist, spoke on the "Contributions of the Denver Botanic Gardens to the Community." She also visited the Royal Botanical Gardens at Hamilton, Ontario.

Dr. William G. Gambill, Jr., recently returned from the annual meeting of the American Association of Botanical Gardens and Arboreta. Tours were planned for the participants to Descanso Gardens, the Los Angeles State and County Arboretum, Rancho Santa Ana Botanic Gardens and many others. Besides representing the Denver Botanic Gardens and greeting many of his colleagues, Dr. Gambill received many ideas for the future development of our new outside gardens.

Mr. Dennis Brown, Director of Horticulture, Mrs. Margaret Hilton, Coordinator Cooperative Program and Miss Mary O'Brien, Editor of the *Garden Journal*, all of the New York Botanical Garden, were recent visitors to the Denver Botanic Gardens. While here Mrs. Hilton explained their program to an interested group of educators.

"A rose is a rose is a rose - -". A flower is poetry and poetry is painting. This all adds up to the Colorado Watercolor Society's annual exhibition of watercolors which will open at the Botanic Gardens June 10 and may be viewed there through June 24.

The theme of the show will be "Visual Poetry" and each painting will be an expression of a quotation of poetry or an original verse by the artist.

Exhibitions by the Colorado Watercolor Society have been enjoyed by the patrons of the Botanic Gardens many times before and this one promises to be especially delightful. Members include many well known artists of the metropolitan area.

Mr. Maynard Whitney of the Art Department of Colorado Woman's College will be the Juror and will select the paintings to be shown.

Recently several staff members went to the Cheyenne Experimental Station to pick up some perennials that had been grown there. Approximately 150 different plants were obtained including such examples as: *Centaurea carnolica*, *Chelidonium majus*, *Physostegia virginiana*, *Salvia betonicaefolia*, *Sida hermaphrodita*, and *Silene alpina*. These have been planted in propagation beds by Dick Schimming and we hope to have a report on their progress in a later newsletter.

Also From the Experimental Station

The U.S.D.A. has announced the introduction of 23 new impatiens varieties. They are totally unlike commercial varieties now grown in the United States. The original plants were collected in the highlands of New Guinea and Java. Flower diameter in some of the varieties is 7 cm. Colors range from pure white through pastel shades of lavender and pink, from pale orange to scarlet. Leaf color varies from green to intense red and some are variegated with white, yellow or pink. The plants will do well outdoors during the summer in moist semi-shaded locations. However, they will tolerate no more cold than older varieties. Denver Botanic Gardens has been fortunate to receive at least 1 plant of each variety for observation this summer.

List of Classes

Of especial interest to all is a new class (never before offered at the Denver Botanic Gardens) in *Techniques of Propagation*. Mr. Andrew Knauer, Assistant Director, will spend several months discussing plant propagation methods. The time will be arranged so the students can practice softwood and summer cuttings plus layering in the summer months, budding during the fall and "hardening off", winter care, grafting, and hardwood cuttings in the late fall period. Products of the laboratory exercises will become the property of the students. The time for this class is 7 — 9:30 p.m. Classroom B, June 7, July 19, September 13, October 18 and November 15. Enrollment limited to 15 so get your name in immediately. Fee is \$17.50 for members and \$25.00 for non-members.



Also Please Remember

Insects and Disease Prevention in Your Garden on Saturday, June 9, 9 a.m., Classroom B. Helen Rose Machin, a rosarian, is particularly knowledgeable on problems that you might face this summer after our very wet winter and spring.

Field Trips. June 6 and 20 are the dates for Dr. Brunquist's field trips. Meet at 909 York at 9 A.M. and bring a sack lunch. And remember June 20 is a working trip to label plants at Mt. Goliath. Dress warmly.

A day long field trip is planned on Saturday, June 30 for the Steamboat Springs area. Plan to meet at 8:30 a.m. at the Steamboat Village Inn — Ski Area. We would like to arrange car pools leaving Friday afternoon from the Denver area. Please call 297-2547 by June 22 if you are interested.

Good preparation for all these field trips are the Botany Club meetings. The next one is June 18 at 7:30 p.m. in the Herbarium. Plant families and examples of plants likely to be seen are discussed at these monthly meetings.

The University of Colorado, Denver Center, will teach two graduate level education courses this June at the Denver Botanic Gardens. *Workshop in Environmental Education* will be from June 18 to June 22, 9 a.m. to 1 p.m., Classroom A. It

will be taught by Mr. Charles Holtzer. Mr. Glenn McGlathery will teach *Workshop in Community Museum Projects* from 9 to noon, June 18, 20, and 22 in Classroom B. Both of these classes carry 2 semester hours credit. Further information on either may be obtained by calling 892-1117 ext. 286.

Thorne Ecological Institute has announced plans for its seventh national *Seminar on Environmental Arts and Sciences*, to be staged July 12 to July 17, 1973 at Aspen, Colorado. Attracting a diverse representation of decision makers from all sectors of American society, the Seminar will once again enable some of the nation's most influential people to become better acquainted with the practical applications of the science of ecology.

This year's theme is "Defining Man's Role in the Living System," or "How to Live Ecologically and be Happy." In order to implement the theme, a staff of distinguished ecologists, designers, social scientists, decision-makers, and attorneys will lead participants in field trips throughout the Aspen area. These experts will direct discussion on specific environmental case studies, so that participants can take part in first-hand applications of ecological principles to the landscape.

Past SEAS participants have included representatives from such diverse interests as Consolidated Edison Co. of New York, American Metal Climax, Inc., United Auto Workers, American Petroleum Institute, Sierra Club, Public Television, Denver Public Schools, *The Christian Science Monitor*, *Sports Illustrated*, U.S. Army Corps of Engineers, U.S. Forest Service, and the U.S. Congress. Scholarships are provided by a special fund for selected representatives from the communications professions, students, minority leaders, clergymen, and public school teachers, so that all points of view can be heard at the gathering.

Living outside of Denver or working during the day and unable to attend our house plant courses? Did you realize that a home study course on *Care of Houseplants* is available through the cooperative Extension Service of Colorado State University. This course of nine lessons includes such topics as foliage and flowering plants; methods of propagation; watering, feeding and general care; dish gardens and terrariums; and use of artificial light in houseplant culture. This study, written by Herb Gundell, is available at the Gift Shop for \$2.50. (Please add 25c postage if you wish to have it mailed.)

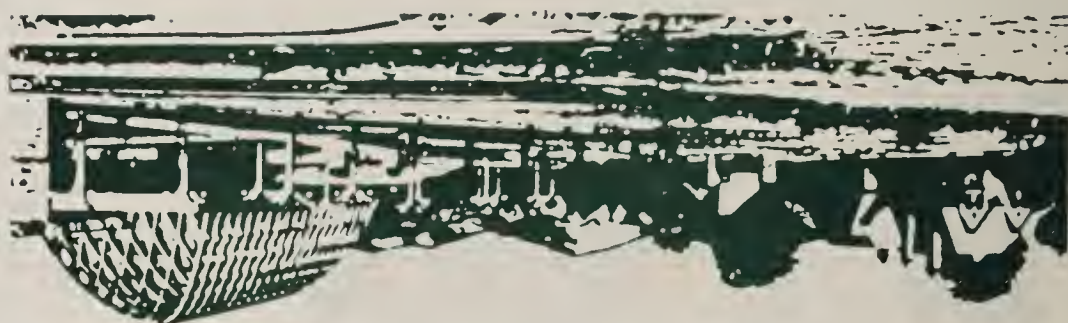
The weather was great and . . .

Again all of us here at the Gardens wish to express our deepest appreciation to all the volunteers who worked on the Annual Plant Sale. Because of the capable leadership of Mrs. John Falkenberg and Mrs. Field Benton and the hours of work of their chairmen and their helpers, everything was in readiness for the crowds of eager shoppers. The Plant Sale is always hard work but is a satisfying experience for all who participate. What would we do without your help!

The Guides Committee of the Associates which has provided tours for 10,061 visitors since January has announced the summer schedule of tours. Guides will be in the lobby of the Education Building every week day from 1 — 3. Tours will be offered at half hour intervals with the last tour at 2:30 p.m. Mrs. Syd Glick, who has spent hours signing up the tours, certainly deserves a vote of thanks. Her work, largely unsung, is extremely important for because of her efforts the large volume of tours runs smoothly and on schedule. Mrs. Flo Middleton will carry on this important work for the summer guiding program.

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(Continued from page 1)

chips or bark in a ring around the tree. It will be much happier and so will you! It will eliminate the need to clip grass around the trunks of trees but, more important, will prevent damage to the base of the tree from "lawnmoweritis."

If you are planting a new birch this year, plan to put it in a location where the soil does not get full exposure during the winter. South and west exposures are the least desirable; birch will do better on a north or east exposure. These soils tend to dry out less quickly in winter. If the soil is heavy, plant the tree 3"-4" above the existing grade. In a sense, you are planting the tree on a mound, but this technique helps offset poor drainage and allows the tree to find its own oxygen level in the surrounding soil.

Good Reading

The May *Audubon* has a lovely illustrated article on flowering trees by Anne Ophelia Dowden. Be sure to read and enjoy *Pageant in the Treetops*.

The *American Forests*, April 1973 lists the "Social Register of Big Trees." Three of the largest reported specimens to be found in Colorado: *Populus angustifolia*, narrowleaf cottonwood, circumference 15'6", height 105', spread 55' near Mancos; *Populus sargentii*, plains cottonwood, 36', 105', 93' near Hygiene and appropriately, the champion Colorado blue spruce, *Picea pungens*, 15'8", 126', 36' in the Gunnison National Forest.



The American Horticulture Society has purchased "Wellington" for its new headquarters. This Potomac river-front site will be developed as a national center of gardening and horticulture. Special programs will emphasize urban horticulture and the urban landscape while environmental activities will also be featured. The Society expects to adapt the facilities to handle national and international seminars and meetings. They also plan to develop a major horticulture library as well as a film library.



Green Thumb Newsletter is published monthly by Denver Botanic Gardens, Inc., 909 York Street, Denver, Colorado 80206. The Newsletter is included as a benefit of membership in the Denver Botanic Gardens, regular membership dues being \$7.50 a year. Items for publication are welcome. The deadline for copy to the editor is 2:00 p.m. on the 15th of each month preceding publication. Editor — Margaret Sikes, 297-2547, Ext. 23.



GARDENING TIPS FOR JULY

July is usually a vacation month, but unless arrangements are made for the care of your garden during your absence the vacation can turn out to be a disaster. It is surprising how many changes take place in a garden during an absence. Weeds grow faster and insects you never saw before make an appearance. The wise gardener will make special preparations before departure. Following are some guidelines to help in planning.

- Perhaps the greatest concern is care of the lawn—mowing and watering. If the services of a neighborhood boy are employed, make sure he is familiar with the operation of your mower. If he uses his own, make sure it is set at the proper cutting height. It is a good idea to have him mow the lawn a few times before you leave to make sure it is done right.
- Be sure the mower is in good operating condition and that the blades are sharp. If the mower is the two cycle type, prepare the gasoline-oil mixture in advance, being certain that there is an ample supply for the amount of mowing that will need to be done in your absence. A common error, which will ruin a two cycle engine, is to add pure gasoline.
- Show whoever is to care for your yard the hazards such as pop-up sprinkler heads, high spots in the lawn, etc. Above all, caution against banging into the trees.
- If you are going to be away for just one week you can get by with a deep soaking of the lawn and not need to do it again until you return. The lawn may even become relatively dry with this one watering, but it will recover. If your absence will be for more than one week you will need to make special arrangements for watering. This is the most difficult to explain, particularly if you do not have an automatic or underground sprinkler system. Point out where spot watering is needed and if you have a basement, caution against setting sprinklers too close to the house. It is no fun to come home to a flooded basement.
- Do not expect a boy to control weeds and insects, especially if chemicals are to be used. You might be able to have some hand weeding done but you will need to point out carefully the difference between weeds and garden flowers. Usually, a thorough weeding prior to departing will be sufficient unless you will be gone for more than two weeks. If chemicals are needed for insect or weed control, they should only be applied by a professional.

Rose Care

The first flush of bloom in roses, while late this year, will more or less be over by the middle of the month. To get extended bloom and healthy plants, it is a good idea to keep the dead bloom cut off, making your cut above the first set of leaves that has an arrangement of five leaflets. A little fertilizer will also help to renew strength in the shoots that will later provide more flowers. About one cupful of 5-10-5 fertilizer should be stirred into the soil around the plant and watered in thoroughly. Caution: make sure you are not using a weed-and-feed type fertilizer.

(Continued next page)



In Alpine Zone

Bristlecone Pine

In Home Landscape

Plant of the Month

Bristlecone Pine, *Pinus aristata*, was chosen for July because it is a good time to see it in the alpine zones and at the same time see the wild flowers, as mentioned previously. On the Mount Goliath trail there are some weathered and gnarled specimens that have been dated to 2,000 years old. At that altitude the tree grows quite slowly but when properly planted in the home landscape at lower elevations, this evergreen grows surprisingly fast and develops into one of the most interesting character pines because of its tendency to develop asymmetrically.

Some distinguishing characteristics that make this tree easy to recognize are the needles in bundles of 4-5 which remain on the tree up to eight years, and a resinous flecking on the surface of the needles. The latter has been a cause for concern in that it resembles pine needle scale.

The vernacular name comes from the sharp but brittle spines on the cone. It is also sold under the general name of Foxtail Pine.

In California and Nevada this species is represented by specimens over 4,000 years old. The oldest specimen, 5,200 years old, is reportedly gone because a graduate student used it for detailed studies. There are probably others of that age in the Sierra Nevadas. It is considered the oldest existing form of life.

A word of caution when planting this tree. It *must* have good drainage, not only on the surface but in the subsoil. It is surprising how quickly it will crowd itself under the eaves of a house.

Alpine Flowers

July is a good time to visit the M. Walter Pesman Trail on Mount Goliath. Spring is actually just beginning at that timberline zone and you should be able to see a spectacular display of more than fifty different kinds of wild flowers. The whole trip, including a one-and-a-half mile walk, can be done in less than six hours. Take along the book *Meet the Natives* by Walter Pesman to help you identify the plants. This book is available at the Botanic Gardens Gift Shop. A mimeographed guide is also available by calling 355-8306.

We are proud to announce that a well deserved honor has come to **Dr. James R. Feucht**, author of the Gardening Tips in this *Newsletter*, and frequent instructor in Denver Botanic Gardens classes. Dr. Feucht has been advanced to the rank of full professor at Colorado State University.

Lawn Problems

Every year at this time certain so-called "hot weather diseases" appear. We have already had our share of melting out disease which was intensified by the cool, wet weather last spring. Other diseases that may show up include brown patch and dollar spot. The best control for these is a chemical called Daconil 2787. Other materials include Captan, Fore and Tersan LSR.

At The Library

Every month, newsletters come into the Helen Fowler Library, bringing items of interest to organic gardeners, rose growers, cactus fanciers, orchid enthusiasts and others. The library staff is well aware that other groups have minutes, reports, which go only to the members but which might interest a larger public. As the years go by, these internal publications accumulate. Material valuable for its horticultural and historical interest may be lost. The Library is offering as a service to all plant societies and gardening clubs a depository for all local and nationally published information generated within these organizations. Please contact Ms. Huggins, 297-2547, if interested or if more information is desired.

A bibliography *Plants vs. Pollution* has been compiled by Diane Schwartz and Meryl Miasek, reference librarians, New York Botanical Garden. This publication is available at the Helen Fowler Library or can be purchased directly from the source at a cost of .30 per copy.

As reported before, the Book Sale was a huge success. Thanks in large measure is due to all who supported it by their donations, and again we ask for your help. Please remember to save all sorts of books for us. Magazines are also useful (*Audubon*, *Horticulture* etc. but please not *Time* or other weeklies.) The Library Volunteers will appreciate your aid in making next year's sale even more successful!

LEARNING ABOUT PLANTS

News of the Educational Courses scheduled at Denver Botanic Gardens.

The plant identification field trip scheduled for July 4 has been canceled. Plan to join the group on the next outing, July 18. Meet at 909 York Street at 9 a.m. Dr. Brunquist is the instructor.

A day-long field trip to St. Mary's Glacier on July 21 should be at just the right time for a spectacular display of flowers. Meet at 909 York Street at 7 a.m. and plan to eat lunch at the Lodge (cost approximately \$2.00 per person). The instructors are Mrs. Marjorie Shepherd and Mr. and Mrs. Raymond Turnure.

Beginning Flower Arrangement will be taught by Lee Ashley on Monday and Thursday evenings, starting on July 9 and ending on August 16. The class meets in Classroom A from 7 to 9 p.m. The fee is \$10.00 for members and \$17.50 for non-members. There is also a \$1.50 charge per session for flowers.

Two free morning sessions are also planned this month. *Dividing and Transplanting Perennials* on Saturday, July 14 at 9 a.m. in Classroom B and *House Plant Clinic* on Tuesday, July 17, same time, same room. Both these will offer an opportunity for discussion and questions about these types of plants.

FOR MEN ONLY

The Men's Garden Club of Denver, the local affiliate of the national organization, is a group of about 75 men who meet on the 4th Thursday of each month, usually at the Botanic Gardens House, sometimes at members' homes or gardens. These men come from all occupations and professions but they all share the common interest of gardening and working to improve their community.

Programs at the club's meetings feature outstanding authorities on gardening and related subjects. Time is allowed at each meeting for discussion and questions and for interchange of gardening information tailored to our Denver climate and growing conditions. Each member receives a monthly newsletter.

The club's services are many and varied. They center around plantings and the beautification of homes and communities, and help in developments of parks and parkways. As a part of the rebuilding of the Denver Botanic Gardens the Men's Club gave \$1,010 for an allee of trees which has now been installed.

The yearly dues of \$10 include membership in the state and national organizations plus the magazine, *The Gardener*. Men interested in gardening are urged to call the club secretary, Wilfred Fehlhaber at 377-9453 for further information.

Dr. Elizabeth McClintock, Curator of the Herbarium of the California Academy of Sciences, Golden Gate Park, San Francisco, was a recent visitor to the Denver Botanic Gardens. While here Dr. McClintock also visited the Herbarium of the University of Colorado and renewed her acquaintanceship with Dr. Weber.

CALENDAR OF EVENTS

JULY — 1973

JULY

3)	* 10:00 AM	Ed. Bldg. — Herbarium	Herbarium Committee
3)	* 1:00 PM	Botanic Gardens House — Dining Room	Editorial Committee
3)	7:00 PM	Botanic Gardens House — Dining Room	Wild Life Committee of Audubon Society
3)	7:00 PM	Ed. Bldg. — Lecture Room "B"	Jr. Bonsai Club
3)	7:30 PM	Botanic Gardens House	Colorado Mountain Club — Conservation
5)	* 11:00 AM	Ed. Bldg. — Horticulture Hall	Arapahoe County 4-H Group
6)	* 1:00 PM	Ed. Bldg. — Lecture Room "A"	Sunburn & Blisters Garden Club
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9)	* 7:00 PM	Ed. Bldg. — Lecture Room "A"	Beginners Flower Arrangement — Mr. Ashley
9)	7:30 PM	Ed. Bldg. — Lecture Room "B"	Regional Transportation Development
9)	7:30 PM	Ed. Bldg. — Lecture Room "C"	Colorado Mycological Society
9)	* 1:15 PM	Botanic Gardens House — Dining Room	Associates Board Meeting
10)	* 4:00 PM	Botanic Gardens House — Dining Room	Executive Committee Meeting
10)	7:30 PM	Ed. Bldg. — Lecture Room "B"	Sierra Club
11)	* 8:00 PM	Botanic Gardens House — Dining Room	Landscape Industry Council
12)	* 12:15 PM	Ed. Bldg. — Lecture Room "A"	Development & Public Relations Committee — Meeting & Luncheon
12)	* 7:00 PM	Ed. Bldg. — Lecture Room "A"	Beginners Flower Arrangement — Mr. Ashley
12)	8:00 PM	Ed. Bldg. — Horticulture Hall	Colorado Mountain Club — Program
12)	8:00 PM	Botanic Gardens House — Main — Dining Rooms and Kitchen	Denver Rose Society
13)	7:30 PM	Botanic Gardens House — Main Room	Dahlia Society
14)	9:00 AM	Ed. Bldg. — Lecture Room "B"	Dividing & Transplanting Perennials — Mr. Jack Riley
14)	10:00 AM	Ed. Bldg. — Lecture Room "A"	Colorado Organic Growers & Marketers Association
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16)	* 10:00 AM	Botanic Gardens House — Dining Room	House Committee Meeting
16)	* 7:00 PM	Ed. Bldg. — Lecture Room "A"	Beginners Flower Arrangement — Mr. Ashley
17)	9:00 AM	Ed. Bldg. — Lecture Room "B"	House Plant Clinic — Mr. Bibee
17)	7:00 PM	Ed. Bldg. — Lecture Room "B"	Jr. Bonsai Club
17)	7:00 PM	Botanic Gardens House — Dining Room	Audubon Society
18)	9:00 AM	Botanic Gardens House — Parking Lot	PLANT LIFE FIELD TRIP — Dr. Brunquist
18)	7:30 PM	Ed. Bldg. — Horticulture Hall	Zero Population Growth
19)	* 7:00 PM	Ed. Bldg. — Lecture Room "A"	Beginners Flower Arrangement — Mr. Ashley
19)	* 7:00 PM	Ed. Bldg. — Lecture Room "B"	"Techniques of Propagation" — Mr. Knauer
19)	7:30 PM	Ed. Bldg. — Lecture Room "C"	Organic Gardening Club
20)	7:30 PM	Ed. Bldg. — Lecture Room "A"	Colorado Bonsai Club
20)	7:30 PM	Ed. Bldg. — Herbarium	Botany Club
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23)	* 7:00 PM	Ed. Bldg. — Lecture Room "A"	Beginners Flower Arrangement — Mr. Ashley
24)	* 4:00 PM	Botanic Gardens House — Conference Room	Board of Trustees Meeting
24)	7:30 PM	Ed. Bldg. — Lecture Room "C"	Gladiolus Society
25)	* 10:00 AM	Ed. Bldg. — Lecture Room "C"	Children's Garden Lecture

CALENDAR OF EVENTS – JULY, 1973 (Continued)

25)	10:00 AM	ANNUAL GARDEN TOUR	See article in Newsletter
26)	* 7:00 PM	Ed. Bldg. – Lecture Room “A”	Beginners Flower Arrangement – Mr. Ashley
26)	7:30 PM	Botanic Gardens House – Main Room	Men’s Garden Club
26)	8:00 PM	Ed. Bldg. – Horticulture Hall	Colorado Mountain Club – Program
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30)	* 7:00 PM	Ed. Bldg. – Lecture Room “A”	Beginner Flower Arrangement – Mr. Ashley
31)	7:30 PM	Botanic Gardens House – Main Room	Colorado Mountain Club – Photo Section
AUGUST			
1)	9:00 AM	Botanic Gardens House – Parking Lot	PLANT LIFE FIELD TRIP – Dr. Brunquist
2)	* 7:00 PM	Ed. Bldg. – Lecture Room “A”	Beginners Flower Arrangement – Mr. Ashley
4)	9:00 AM	Ed. Bldg. – Lecture Room “B”	Fall Care of Roses – Mr. “Casey” O’Donnell
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6)	* 7:00 PM	Ed. Bldg. – Lecture Room “A”	Beginners Flower Arrangement – Mr. Ashley
7)	* 10:00 AM	Ed. Bldg. – Herbarium	Herbarium Committee
7)	* 1:00 PM	Botanic Gardens House – Dining Room	Editorial Committee
7)	7:00 PM	Botanic Gardens House – Dining Room	Wild Life Committee of Audubon Society
7)	7:00 PM	Ed. Bldg. – Lecture Room “B”	Jr. Bonsai Club
7)	7:30 PM	Botanic Gardens House – Main Room	Colorado Mountain Club – Conservation
8)	* 8:00 PM	Botanic Gardens House – Dining Room	Landscape Industry Council
9)	* 7:00 PM	Ed. Bldg. – Lecture Room “A”	Beginners Flower Arrangement – Mr. Ashley
9)	8:00 PM	Ed. Bldg. – Horticulture Hall	Colorado Mountain Club – Program
9)	8:00 PM	Botanic Gardens House – Main – Dining Rooms – Kitchen	Denver Rose Society
10)	7:30 PM	Botanic Gardens House – Main Room	Dahlia Society
11)	8:00 AM	Ed. Bldg. – Horticulture Hall	Gladiolus Society Show OPEN TO PUBLIC – 1:00-5:00 PM
11)	10:00 AM	Ed. Bldg. – Lecture Room “A”	Colorado Organic Growers & Marketers Association
12)	9:00 AM	Ed. Bldg. – Horticulture Hall	Gladiolus Society Show OPEN TO PUBLIC 9:00 AM-5:00 PM

* FOR MEMBERS OR ENROLLEES ONLY

WHAT'S THE NAME?

The Annuals in Bloom at Botanic Gardens

When you meet the annual flowers now on display at Botanic Gardens would you like to be introduced? Here are the names and locations of the beauties:

In the curved beds along York Street — the snapdragons are 'Bronze Butterfly', 'Orchid', and 'White Floral Carpet'. Then *Verbena venosa*. Petunias are 'El Toro', and 'White Joy'. The names of the marigolds are 'Naughty Marietta', 'First Lady' and 'Petite Orange'. Meet these verbenas: 'Crystal', 'Blaze' and 'Pink Delight'. That lovely ageratum is 'Blue Mink'. And the zinnias are called 'Mini-pink', 'Peter Pan Pink', 'Peter Pan Plum' and 'Pink Buttons'.

The residents of the large bed east of Horticulture Hall are these zinnias: 'Zenith Yellow', 'Torch' and 'Firecracker'; bordered by 'Blue Bedder' salvia and *acalypha*.

Across the street, in the beds around the flagpole, you can get acquainted with 'Modesty' geranium; 'Firefly' coleus; 'Pink Magic', 'Black Magic' and 'Sugar Plum' petunias; 'Spun Yellow' marigold; some more 'Blue Bedder' salvia and a white variety of salvia.

Along the conservatory sidewalk you will meet 'Dark Opal' basil and 'Yellow Rocket' snapdragon. They make a striking yellow and purple combination.

Inside the fence you come again to your friend 'Blue Bedder' salvia, and also 'Pink Queen' cleome bordered by 'Pink Magic' petunia.

Now, let us introduce the champions — the All-America award winners, past, present and future. This is the first time they have been on display here. As to the future, the 1974 winners are: 'Scarlet Ruffles' zinnia (gold medal), 'Peter Pan Orange' zinnia (bronze medal), 'Showboat' marigold (bronze medal), 'Diablo' cosmos (bronze medal), 'Magic Charms' dianthus (bronze medal), and 'Red Fox' celosia (bronze medal).

1973's winners appearing here are: 'Carved Ivory' zinnia (silver medal), 'Circus' petunia (bronze medal), and 'Summer Carnival' hollyhock (bronze medal).

Come and see these distinguished flowers. It will be a pleasure for you and for us.



Zinnia 'Torch'



Petunia
'Sugar Plum'



Snapdragons
Petunias
Marigolds



Blue Ageratum

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TERRACE AND GARDEN TOUR

Once again the annual Terrace and Garden Tour will be sponsored by the Denver Botanic Gardens Guild. The tour will be on Wednesday, July 25th, between the hours of 10 a.m. and 6 p.m.

Eight gardens, in the East and Southeast sections of the city, will be featured this year. (See the Summer issue of *The Green Thumb* for the names and addresses of the owners of the gardens.)

These gardens are of particular interest because of the variety, size, design and content.

Tickets for the tour are \$4.00 each and will be available for purchase at Botanic Gardens House, the Conservatory Gift Shop, at each garden on the day of the tour, and from individual members of the Guild. Punch and cookies will be available at 3436 E. Kentucky between 2 and 4 p.m.

The profits from this year's tour will go toward a major expansion of the Guild-maintained herb garden. This is a most important project and deserves your support.

Do plan to attend!

ART AND GARDEN TOUR OF THE ORIENT

Dr. William G. Gambill will be one of the leaders of an Art and Garden Tour of the Orient, sponsored by the Denver Art Museum, in October and November this year. The other leader will be Mrs. Emma C. Bunker of the Oriental Department of Denver Art Museum.

The tour will leave Denver on October 20 and will include five days in Tokyo, two days in Hakone National Park, four days in Kyoto — all in Japan — and three days in Taipei, Taiwan, ending with three days in Hong Kong. Return to Denver will be on November 10.

In addition to visits to Tokyo National Museum and Folk Craft Museum in that city, travelers will see Rikugien Garden at Tokyo, Saihoji moss garden, Daikakuji — the oldest garden in Japan — and Ryoanji Temple rock garden, as well as many other interesting art and garden attractions.

Flights are by Pan American and Northwest-Orient jets.

Those interested may obtain more information from Travel Associates, Inc., 701 W. Hampden Ave. in the Gold Mall, Englewood, 80110.

A nice thing happened at the Gardens in June. We enjoyed a visit with Elna (Mrs. Jess) Gibson, valued member of Botanic Gardens Board of Trustees, now a resident of Cedaredge, Colo.

As this is published Margaret Sikes, the editor, is in Europe on vacation. Have a good time, Margaret!

Membership at the Denver Botanic Gardens now stands at 2063. Many new members were signed up at the Plant Sale because of the efforts of the Development and Public Relations Committee.



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GARDENING TIPS FOR AUGUST

Mites, thrips and tomato worms are the creatures we should watch out for this month. As a matter of fact, mites and thrips are already in high gear on quite a wide variety of plants in the home grounds.

Mites

Spider mites are eight-legged creatures which are not actually insects. They are tiny, thus often escaping detection until plant damage has occurred. In evergreens such as Pfitzer junipers the damage will first be noticed as an off-color of the plant, appearing almost as if it is drying up. Heavy infestations will result in a complete browning of the plant. On broadleaf plants, spider mite infestations take on a "salt-and-pepper" effect or a stippled look to the leaves. Severely infested leaves will turn brown and dry up.

Spider mite control is not difficult to achieve because there are excellent miticides available. The most available is Kelthane. These chemicals are especially designed to have sufficient residual to catch the hatching young as well as stop the adults.

For those who do not wish to use miticides or any type of chemical control, a method that has proved somewhat satisfactory for reducing mite populations is to syringe the plants frequently with a strong stream of water. There are, however, disadvantages to this method. The strong stream of water may reduce mite populations but it may also severely damage flowers.

Thrips

Thrips are even smaller than mites and quite evasive, making detection and control a bit difficult. Thrips are responsible for damage to rose buds, frequently preventing them from opening properly. When the buds do open, they are very much distorted. Thrips also feed on a wide variety of garden flowers. Damage from thrips on foliage is usually a silvery effect. This is caused by the thrips sucking out plant juices from the cells; the empty cell cavities then take on a silvered appearance.

One of the thrips' most favored woody plants is the privet hedge. A heavily infested hedge will suddenly have a silvery look, followed by browning. If not controlled, defoliation will occur. Control of thrips is also relatively simple, particularly for those that feed on the foliage. Malathion, applied in 2-3 sprays spaced about seven days apart, will generally do the job. For those thrips affecting the flower buds of roses, a systemic insecticide may be needed. These should be used with caution. An overdose will be harmful to the roses.

Watch for Tomato Worms

Perhaps you have noticed the "hummingbird moths" flying around your garden in the evening hours. This rather interesting moth, while feeding on the nectar of your flowers, is also

laying eggs on your tomato plants. They are the adult stage of the tomato horn worm. The eggs are large enough to be visible, but the moth usually lays them in cleverly disguised places. Soon the eggs will be hatching and the young caterpillars will begin their voracious feeding.

It is always surprising how fast a tomato worm can grow and how much they can eat. They also seem to eat more while a gardener is on vacation than when he is home. At the first sign of feeding, apply Sevin at the manufacturer's recommended rate. If you are going to be away, make an application of Sevin just before departing in order to give protection until your return. The earlier you control it the less pesticide needed and the less frequent applications.

If you prefer not to use chemicals, hire the kid next door to pick off the worms, at least on a weekly basis. Some kids enjoy doing this and could be rewarded with a nickel a worm or whatever you choose to pay. There are, however, two disadvantages to this method. First, you generally have to wait until the worms are big enough to be readily visible. By that time they have already done the damage. Second, a few worms always seem to escape the eye, particularly in dense tomato plantings that are not staked and are sprawling on the ground.

Watering Tips

Watering continues to be a problem, especially in lawns. One of the greatest difficulties is the spots of heavy clay soil or "clay lenses" which don't seem to take up water readily and dry to a hard-packed surface in a short period of time, particularly in 90° weather. This situation cannot be improved by adding more water. As a matter of fact, adding more often accentuates the problem by cutting off the air from the root system and further compacting the soil. The solution is to aerate. This subject was covered in previous *Green Thumb* gardening tips but should be repeated. For small areas, a hose-attached soil needle will do the job but it would be very time-consuming for large areas. For the latter, rent a drum aerator. Before using it, however, be sure the soil has some moisture in it. Water a few days prior to renting the machine. The machine does not work well in a muddy soil which has been recently watered nor does it work well on a hard clay.

The practice of watering frequently as a result of the hot weather has also caused stress in trees in the lawn area. In many ways, trees and lawns are not compatible. While trying to satisfy the watering requirements of the lawn, you can easily overwater (under-oxygenate) the root zone of your trees and shrubs. The most severely affected are those species that are accustomed to a gravelly, well-drained soil such as pines and firs. Swamp species like cottonwoods and willows can tolerate this better. If you have a sprinkler system, either change the heads that are near the trees and shrubs to divert the water away from them or close them off entirely and hand water the trees and shrubs as needed. Watering trees with a soil needle is a good method in that it does some aeration at the same time. Be sure to angle the needle away from the tree — not into it.

(Continued on back page)

TOUR OF THE ORIENT

By now all members will have received information about this exciting tour. It was decided to offer it in October for that is one of the most delightful seasons of the year in Japan. It is hoped that the chrysanthemums will be at their peak for the visit. Flexibility is provided in the schedule for leisure time can be arranged or if desired, extra tours may be inserted. Please call Mr. Jim Salyers or Miss Jackie Emery at Travel Associates, Inc., 701 W. Hampden Ave., Englewood (303) 761-1666 for further information.



AUGUST LIST OF CLASSES

Fall Care of Roses will be discussed on Saturday, August 4 starting at 9 a.m. in Classroom B. Mr. G. E. "Casey" O'Donnell, a rosarian, will explain easy precautions that anyone may use. FREE.

Mr. George Grimes, President of the Colorado Mycological Society, will explain some points for *Identification of Common Mushrooms*. This free morning session will be held on Saturday, August 18 at 9:30 a.m., Classroom C.

The field trip to Mt. Goliath is already full. Perhaps some of our members would be interested in going up on their own at another time. Take Highway 40 to the Mt. Evans turnoff at Idaho Springs and follow the road above Echo Lake to the Mt. Goliath parking area (about 3 or 4 miles from the Echo Lake Junction). Please remember, keep on the trails, don't pick the flowers, dress warmly and wear walking shoes.

The Community College of Denver, North Campus, has announced that Lee Ashley will teach a non-credit course in *Floral Design Workshop*. This course to be offered at the Denver Botanic Gardens, Classroom A, will start on August 14 and run for 12 sessions on Tuesday and Thursday evenings from 7-9 p.m. Please call 287-3311 ext. 210 for further information.

AND a PREVIEW of the FALL LIST of CLASSES:

Early in September we will start a *Wild Flower Photography* class. AND as a special academic effort, *General Botany* will be taught by Dr. Miriam Denham. Call for more information or watch for your Fall Schedule of Educational Courses which should be in your mail box soon.

COLORADO GLADIOLUS SHOW

Saturday - August 11th, 1:00 to 5:00 P.M.
Sunday - August 12th, 9:00 to 5:00 P.M.
Place - Denver Botanic Gardens
1005 York Street

It scarcely seems possible that twenty years ago the Gladiolus Society held its first show in the garage of the late Dr. A. A. Hermann. Dr. Hermann had a beautiful yard and he was very interested in all kinds of plants. Working with Mrs. Daisy Hastings (also deceased) they set the pattern of having an annual gladiolus show the second week-end in August.

The Gladiolus Society took up the challenge that Mrs. Hastings presented them and have produced some beautiful shows.

Each year a theme is set up and the flowers are planned around it. This year the theme is "The Now Generation". So do stop in at the Denver Botanic Gardens the second week-end in August and enjoy all the fun and beauty.



The Colorado Gladiolus Show is open to all gladiolus growers.

Membership in the Colorado Gladiolus Society is not necessary, but all exhibitors are invited to join. Dues are \$6.50 (single) or \$7.50 (family) per year. Meetings are held on the Fourth Tuesday of each month at the Horticulture Hall, Denver Botanic Gardens, 1005 York Street.

The names of the winners in the first judging of the Children's Garden have been announced. Congratulations to:

ADVANCED

FIRST

David Horsley

Roxane Seney

SECOND

Kenneth Horton

THIRD

Elizabeth Falkenberg

BEGINNER

FIRST

Doug Schwieder

Danny Moe

SECOND

Trecia Kennedy

THIRD

Pam Pepin

July 8th, 1973, marked the passing of Margaret McLister, one of the best friends the Denver Botanic Gardens ever had. She loved everything about it including the people who worked there. Her devotion to the children and the Children's Gardens was shown in many ways. During the growing seasons, she gave each child a colorful bucket to gather the produce in. In the summer of 1972, a group of children filled baskets with lovely fresh vegetables from their little gardens and presented them to her at her home. The children sat around her on the floor and listened, wide eyed, to stories of her childhood in Leadville, Colorado. She had a way with children just as she had a way with everyone she came in contact with. Margaret was a Great Lady and we who were privileged to know and work with her will feel keenly the void left by her death.

Helen D. Stanley

Selected List of Accessions — Helen Fowler Library

- Baker, Jerry. 1973. *Talk to your plants and other gardening know-how I learned from Grandma Putt*. Nash Publishing, Los Angeles.
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- Robinette, Gary O. 1972. *Plants, people, and environmental quality*. U.S. Dept. of the Interior, Washington, D.C.
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One of the joys of working at the Denver Botanic Gardens is meeting a variety of distinguished visitors. Dr. Joseph Andorfer Ewan, who is a botanist, bibliographer, and historian, worked at the University of Colorado from 1937 to 1944, and since then has been at Tulane in New Orleans as Professor of Botany. This summer he and Mrs. Ewan have returned to Boulder for a few months. We certainly are delighted to have this friend and teacher of many of our members in the vicinity and shall be calling on his expertise. (Two of Dr. Ewan's books, *A Short History of Botany in The United States* and *Rocky Mountain Naturalists* are available in the Helen Fowler Library.)

Tuberous begonias are the featured plants around the Lobby Court Pool this month. These beautiful flowers are intermingled with tropical vegetation such as croton, spathiphyllum, and ficus. Come see this beautiful display.

The Botany Club meeting is at 7:30 in the Herbarium on the third Friday of each month (with the exception of December). Since notices of this appear in the newsletter and in the newspapers, mailed notices will not be sent but please mark your calendar. Remember everyone is welcome.

Have you noticed the new addition in the Library? Not a volume this time but instead a planting of *Dionaea muscipula*, Venus Fly Trap. This carnivorous plant has hinged leaves that can snap shut like a book when at least 2 of the trigger lobes are touched. Interlocking teeth on the edges keep the leaf halves shut while digestive juices pour around the trapped insect. Usually the process of digestion takes a week or two and then the trap opens again.



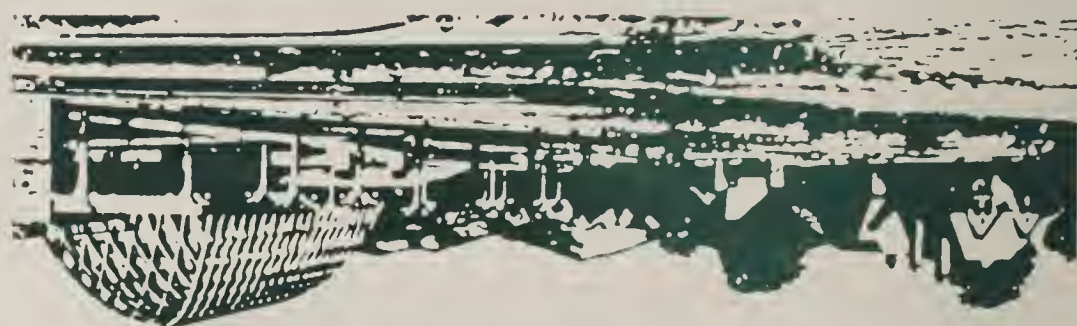
The perfect plant for lazy gardeners since it needs neither watering or weeding, is currently making a beautiful display in the large pool south of the A.A.R.S. plots in the outside garden. Here many varieties of water lilies are being grown. The hardy varieties of course, will do well here but beside these, 15 varieties of tropical water lilies (including *Victoria regia*) are thriving in this experimental planting.

The flowers which range from white, to yellow, pink, lavender, sky blue, deep blue, purple and deep purple plus sunset colors of many hues are lovely. The leaves also are striking — often mahogany or mottled green and mahogany.

The best time to see these beauties is between the hours of 10:00 A.M. to 3:00 P.M. Come on over!

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Plant of the Month

Tree of Heaven (*Ailanthus altissima*). You might think it strange to feature a tree that is known almost nation-wide as a weed and has been dubbed "The Tree That Grows in Brooklyn." While it is true that this tree has a bad reputation in some areas, specimens like the one pictured have much to recommend them. Many also may not be aware that there are varieties of the Tree of Heaven. In particular, *A. a. erythrocarpa*, is a selection known for its bright red winged fruit.

A native of China, this species has become naturalized in the eastern United States since as far back as 1784. In many cities the male plant is not allowed because the flowers have a disagreeable odor. The tree is dependable, particularly in our often difficult soils, producing a handsome dark green compound foliage. Some say it may also be a city tree for the future as populations grow because it has exhibited a considerable amount of resistance to air pollutants.

This tree has a reputation for its brittle wood. Yet, because the large compound leaves drop off early and detach readily, it rarely suffers in an untimely snow storm. Another feature of the tree that has given it its bad reputation is its tendency to sprout root suckers. This, however, usually is magnified by severe top pruning. By planting the tree in the proper location, where it can have plenty of space, little or no pruning should be needed. As a result, there will be less root suckering.

The Tree of Heaven may not be one that should be planted in every yard, but it does have its place in the landscape and certainly adds to the variety of winter silhouettes in the city treescape.



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GARDENING TIPS FOR SEPTEMBER

Already it is September! It hardly seems as if we had a summer, but then anyone who lives in Colorado knows that weather conditions are not consistent year after year. Summer got off to a late start and then only briefly for a sizzling period in July, followed by above-normal precipitation in August and cool, rather pleasant temperatures followed. Perhaps we will see an Indian summer taking us into the October period.

It is impossible to predict when we will have our first killing frost. For this reason it is a good idea to prepare your plants for possible early freezes. One of the best ways to do this is to withdraw water by spacing the watering periods further apart each time. This does not mean you should let your trees and shrubs get bone dry. You need not worry too much about certain kinds of plants since they seem to get ready regardless of temperatures and are probably more regulated by the shortening day lengths. Some examples are oaks, lindens, hackberry and birch. Those that do tend to grow late should be given special attention; these are golden-rain, willows, some kinds of cottonwood, redbud and some of the maples. These plants are often the ones most severely injured in untimely freezes.

Early Fall Chores

This is a good time to re-arrange some of the perennials by digging and dividing to improve the health of the plants and to keep them from getting overcrowded. Perennials that bloom in the spring and early summer, such as peonies, poppies, delphinium and shasta daisies, can be divided now. Late summer and fall flowering perennials should not be divided until spring.

Using a spade, shovel or spading fork (I prefer the latter), dig around and under the entire plant and lift it out of the soil. By hand, remove the large clods of soil from the roots and wash off the rest with a stream from the garden hose. Check the condition of the roots, remove and discard all diseased and dead portions. Save the healthiest parts and separate them at the crown or "eye". Healthy portions should be kept moist and replanted as soon as possible. If they need to be held over, heel them in the garden in an out-of-the-way place and water them in. If it is just for a few days, wrap in moist paper and store in the refrigerator.

Perennials that have been divided and replanted in the fall should be given a liberal mulch applied on the surface of the ground around them. This will help to conserve moisture and prevent early freezing of the soil long enough for development of roots before winter sets in. One of the most suitable mulches on the market is wood chips. For ideas on other types of mulches, request a free copy of Service-in-Action Leaflet 7.214 from your County Extension Office or from the author care of Denver Botanic Gardens.

Spring flowering bulbs can be planted now. The earlier you buy them the better quality bulbs you are apt to get. Bulbs that are kept on the garden shop shelves too long are not apt to produce satisfactory flowering. Most garden centers also keep only limited supplies of the good quality

(Continued next page)



The Common Hackberry, a native of Colorado, is often used as a replacement for the American Elm. While difficult to establish, it has relatively few problems once it has adjusted to the site.

Plant of the Month

COMMON HACKBERRY *Celtis occidentalis*

This is a native of Colorado and, in fact, among the very few trees native along the eastern plains. It is often used for replacement for American Elms lost through DED because in many ways it resembles it in shape as well as in foliage.

The hackberry is noted for its interesting, corky, ridged bark and lop-sided leaves. It is related to the elm in that it is in the same family, *Ulmaceae*, but it is not at all susceptible to DED.

The most common problem that afflicts the hackberry is nipple gall caused by a psyllid insect. While unsightly, it is harmless to the tree. Occasionally specimens will develop a witches broom caused by a mite, but this too is relatively harmless to the tree and, in fact, gives it a distinctive winter silhouette.

Hackberries are somewhat difficult to establish, particularly when larger sizes are planted. Good soil preparation, adequate drainage and proper planting practices should yield success. Some fine examples of hackberry can be seen on 8th Avenue and Pennsylvania in front of the Governor's Mansion, in Denver's Civic Center and in all of the parks. Related to the common hackberry, the sugarberry, *Celtis laevigata*, is also found in Denver. A specimen almost 30" in trunk diameter and about 50' tall is located in the Denver Civic Center.

James R. Feucht

GARDENING TIPS (Continued)

bulbs since few of them have adequate facilities for long-range storage.

Bulb planting depth will vary with the type of bulb as well as the kind of soil. In heavier soils bulbs should be planted 1"-2" more shallow than in lighter, sandy soils. Large bulbs like narcissus and the late tulips are generally planted 7"-8" deep. Hyacinths and early to mid-season bulbs 5"-6" deep, and the small early bulbs such as crocus, squill and snowdrop 3"-4". For more detailed information, request a bulb planting chart from the author.

Dutch Elm Disease Losses High

This is the fifth year for Dutch elm disease (DED) in the Denver Metropolitan Area. Statistically, across the nation the fifth year is the period of highest losses. Denver was no exception. Estimates early in the year forecast losses at about 12,000 trees. By mid-summer this was revised upward to 15,000. The final tally will probably go higher.

It has become quite evident in Denver's five year experience with DED that our biggest percentage of infections are occurring in the late summer beetle flights which normally take place in September. For this reason, Trees for Today and Tomorrow, a citizens' coalition concerned for the community's trees, is urging everyone to do his part in getting rid of dead or dying elm wood now and particularly those who have received notices that their trees are infected to comply with the ten day removal requirement. The importance of destroying dead and dying elm wood before beetle flights take place can be underscored by a recent count of beetles in a log reared in the laboratory. They totalled 1581 adult beetles which emerged from a log measuring only 12" in length and 9" in diameter. When the beetles emerge they carry spores of the disease on their bodies and infect healthy trees during their normal feeding.

Tree Replacements

Fall is a good time to replace some of the lost trees in our city if they are planted early enough to become established before the ground freezes hard. Use care in selecting a tree. Attention should be given to the site and soil conditions and the space available. Don't choose a tree on the basis that your neighbor has one or on price alone. If you are replacing a tree along public rights-of-way, check with the city forester to get approval before planting. Some types of trees are not allowed along streets for reasons of safety or hazards to sewer lines. For more information on selecting trees and proper procedures for planting and care, request pamphlets 43 and 127 from the author.

TIME IS GETTING SHORT!

September 10 is the due date for the payment for the Art and Garden Tour of the Orient. When you become weary of viewing oriental masterpieces or even unique gardens, you must relax by sampling some of the famous cuisine of the East. Luncheon or dinner in a Japanese garden restaurant can be one of the high points of your visit. Your shoes are left at the door and you are ushered into your own small room. Here, surrounded by the quiet charm of trees, rocks and flowers you will be pampered, well fed and gently amused. Also, superb Chinese restaurants can be found in Hong Kong. Dishes include such exotic items as winter melon soup, prawns in black bean sauce, braised turtle, fried frog legs and birds nest soup.

Call Mr. Jim Salyers or Miss Jackie Emery at Travel

Associates, Inc., 701 W. Hampden Ave., Englewood (303) 761-1666 for further information.

* * *

Despite the severe gasoline shortage and the resulting drop of tourists in Denver, 41,762 visitors have gone through the turnstiles to view the Gardens from June 1 to August 1. Since the turnstiles were not operating and no employee was stationed at the Gate House, comparison figures with last year cannot be fairly made. However, we can assure the members the Gardens have been very busy and many favorable comments have been received. Still one patron was overheard to say, "If I had known it was just plants, I'd have stayed in the bus!"

To continue a statistical report: since January, 1973, 1,440 people have enrolled in classes and field trips. (Of course duplications occur in this count since many people are faithful participants in field trips and enroll in more than one class.) Usually the free morning sessions are almost equally divided between members and non-members, but the fee classes are particularly attractive to members.

We should be interested in hearing from those of you who have attended our courses. Do write and tell us what you think. Were you pleased with the class; did it cover the subject matter you expected; was the time convenient for your schedule; was the teacher qualified, prepared and interesting?

We should also like to ask for your help in developing new classes in aspects of botany or horticulture. Please write and let us know what you would like to have taught. We will do our best to oblige.



Children's Garden Graduation

The Annual Children's Graduation Program will be at 2 P.M., Saturday, September 8 at 1005 York Street, Horticulture Hall.

Certificates will be awarded to those children who have successfully completed the program. Prizes will be presented to the winners of the best gardens in both the Beginner and Advanced group.

Refreshments will be served and exhibits may be viewed after the program and on Sunday also. The Children's Garden will also be open on Saturday for viewing of the individual plots. All welcome.

SEPTEMBER — 1973

[illegible]

CALENDAR OF EVENTS – SEPTEMBER 1973 (Continued)

18)	7:00 p.m.	Ed. Bldg. — Horticulture Hall	Sierra Club
18)	* 7:00 p.m.	Ed. Bldg. — Lecture Room “A”	Floral Design Workshop — Mr. Ashley
18)	7:00 p.m.	Ed. Bldg. — Lecture Room “B”	Jr. Bonsai Club
18)	7:00 p.m.	Botanic Gardens House — Dining Room	Audubon Society
18)	* 7:30 p.m.	Botanic Gardens House — Main Room	African Violet Council
19)	9:00 a.m.	Botanic Gardens House — Parking Lot	PLANT LIFE FIELD TRIP — Dr. Brunquist
20)	*10:00 a.m.	Botanic Gardens House — Main Room	Around The Seasons
20)	* 2:00 p.m.	Ed. Bldg. — Lecture Room “B”	Tropical Plants for Home & Garden
20)	* 7:00 p.m.	Ed. Bldg. — Lecture Room “A”	Floral Design Workshop — Mr. Ashley
20)	7:30 p.m.	Ed. Bldg. — Lecture Room “C”	Organic Gardening Club
21)	7:30 p.m.	Ed. Bldg. — Lecture Room “A”	Colorado Bonsai Club
21)	7:30 p.m.	Ed. Bldg. — Herbarium	Botany Club

24)	*	1:30 p.m.	Ed. Bldg. — Lecture Room “A”	General Botany — Dr. Denham
25)	*	2:00 p.m.	Ed. Bldg. — Lecture Room “B”	Tropical Plants for Home & Garden — Mr. Bibee
25)	*	4:00 p.m.	Botanic Gardens House — Conference Room	Board of Trustees Meeting
25)	*	7:00 p.m.	Ed. Bldg. — Lecture Room “A”	Floral Design Workshop
25)		7:30 p.m.	Ed. Bldg. — Horticulture Hall	Colorado Open Space Council
25)		7:30 p.m.	Ed. Bldg. — Lecture Room “C”	Gladiolus Society
25)		7:30 p.m.	Botanic Gardens House — Main Room	Colorado Mountain Club — Photo Section
26)		7:00 p.m.	Ed. Bldg. — Lecture Room “C”	Mycology Class — Dr. Mitchel
27)	*	2:00 p.m.	Ed. Bldg. — Lecture Room “B”	Tropical Plants for Home & Garden
27)	*	7:00 p.m.	Ed. Bldg. — Lecture Room “A”	Floral Design Workshop — Mr. Ashley
27)		7:30 p.m.	Ed. Bldg. — Lecture Room “B”	Capitol Hill United Neighborhood
27)		7:30 p.m.	Botanic Gardens House — Main Room	Men’s Garden Club
27)		8:00 p.m.	Ed. Bldg. — Horticulture Hall	Colorado Mountain Club

OCTOBER

1)	* 1:30 p.m.	Ed. Bldg. — Lecture Room “A”	General Botany — Dr. Denham
2)	* 10:00 a.m.	Ed. Bldg. — Herbarium	Herbarium Committee
2)	* 1:00 p.m.	Botanic Gardens House — Dining Room	Editorial Committee
2)	* 2:00 p.m.	Ed. Bldg. — Lecture Room “B”	Tropical Plants for Home & Garden — Mr. Bibee
2)	* 7:00 p.m.	Ed. Bldg. — Lecture Room “A”	Floral Design Workshop — Mr. Ashley
2)	7:00 p.m.	Ed. Bldg. — Lecture Room “B”	Jr. Bonsai Club
2)	7:00 p.m.	Botanic Gardens House — Dining Room	Wild Life Committee of Audubon Society
2)	7:30 p.m.	Botanic Gardens House — Main Room	Colorado Mountain Club — Conservation
3)	7:00 p.m.	Ed. Bldg. — Lecture Room “C”	Mycology Class — Dr. Mitchel
4)	* 2:00 p.m.	Ed. Bldg. — Lecture Room “B”	Tropical Plants for Home & Garden
4)	* 7:00 p.m.	Ed. Bldg. — Lecture Room “A”	Floral Design Workshop — Mr. Ashley
4)	7:45 p.m.	Ed. Bldg. — Horticulture Hall	Denver Orchid Society
6)	9:30 a.m.	Botanic Gardens House — Main Room	Gloxinia Gesneriad Growers

* MEMBERS OR ENROLLEES ONLY

Fall Quarter Classes

A wide variety of educational opportunities are available at the Denver Botanic Gardens in the coming months. Probably many of our members have studied the listing as printed in the *Fall List of Classes* and some money and registration blanks have already been returned. This is a wise policy for many of the classes must be limited and enrollees are accepted in the order in which registrations are received!

Plant Identification Field Trips will continue in September under the direction of Dr. E. H. Brunquist. The group will meet at 9 A.M. on the 5th and 19th of September at 909 York Street. (No trips planned in October or November — join us again in Spring.)

Wild Flower Photography will be offered on three Thursdays. The first class on September 6th will be taught in Classroom C at 9 A.M. and will provide an opportunity to discuss equipment and technique. The next, on September 13th, will meet in the field so the participants may take pictures under Mrs. Yeatts' supervision and October 18th, the group will return to Classroom C for a slide show and critique. The cost is \$5.00 for members and \$12.50 for non-members.

If you are confused as to how gymnosperms and angiosperms differ or what $6\text{CO}_2 + 6\text{H}_2\text{O} \rightarrow \text{C}_6\text{H}_{12}\text{O}_6 + 6\text{O}_2$ describes, *General Botany* is the course for you. Dr. Miriam Denham is extremely well qualified to explain the plant kingdom and its structure and function. The class will start September 10th and continue every Monday afternoon from 1:30 to 4:30 P.M. until December 3rd. The cost is \$25.00 for members and \$32.50 for non-members. Classroom A.

A free morning session on September 11th at 9:30 A.M., Classroom B, will focus on *Drying Herbs*. Harvest time is near in the garden and Mrs. John Falkenberg will explain how to care for the herbs grown this summer.

Mr. Herb Gundell, Denver County Agent, will give some tips on *Preparing Your Garden for Winter*. This free class is scheduled for September 18 at 9 A.M., Classroom B.

One of the most popular classes offered by the Denver Botanic Gardens every year is Mr. Ernest Bibee's *Tropical Plants for Home and Garden*. In this three month class, students will learn much about propagation and care of house plants. Ample time is allowed for students to try their hands at some of the techniques which will be discussed and demonstrated. This class will be taught each Tuesday and Thursday from September 18 to December 4 from 2 to 4 P.M. in Classroom B. The fee is \$12.50 for members of Denver Botanic Gardens and \$20.00 for non-members.

The Denver vicinity has some beautiful old trees of which we all should be proud. Join us on a *Tree Walk*, September 22 and let's see what we can find. Meet at 9 A.M. Free.

Boulder, leader, Dr. William G. Gambill, Jr. Park on the streets near the University of Colorado campus and meet at the front of the Museum. (West of the Memorial Student Union, near Broadway and 16th)

Lakewood-Wheat Ridge, leader, Dr. James Feucht. Meet to the south of the Crown Hill office, entrance at W. 29th and Wadsworth.

Park Hill, leader, Miss Exie White. Meet at the flagpole in the center of Colorado Women's College Campus, 1800 Pontiac.

University Park, leader, Dr. Moras Shubert. Meet at the front of the Observatory near Warren Ave. in Observatory Park, between So. Milwaukee and So. Fillmore Streets.



Would you like to get a letter like this?

Dear Friends,

Thank you for arranging our trip. I never knew that banbo grew a foot a day. I never knew there was sush a thing as bota belly banbo. It was fun. I'm from N. J. and I'm yusto the hummeiditty.

Your friend,

Become a guide!

Mrs. Phil Hayward will again offer *Tropical Plants of the Conservatory*. It is not a prerequisite to become a tour guide after taking the course, but if the student guides for a total of 40 hours, the \$25.00 fee will be refunded. This class will meet from 1 to 3 P.M. from September 19 to October 31 in the Conservatory.

A night class, *Introduction to Mycology*, will be taught starting September 26 to October 17 from 7 to 9 P. M., Classroom C. Dr. D. H. Mitchel, Honorary Curator of Mycology and co-author of *The Mushrooms of Colorado and Adjacent Areas* is the professor. The fee is \$10.00 for members and \$17.50 for non-members.

Remember — the membership is offered the first opportunity to enroll in these classes. Then they are opened to the general public.

Information has been received concerning a Jefferson County Adult Education Class, "*Natural History of America's National Parks and Monuments*". There will be 10 sessions discussing such subjects as: "In the Beginning Fire and Water; The History of Time; The Time that the Ice Came; and Wildlife Means WILD". The instructor, who has served as a seasonal naturalist for the National Park Service, will use slides and movies to illustrate the concepts to be discussed. The class will be taught at Everitt Junior High School, 3900 Kipling in Wheat Ridge, 7 - 9 P.M. from September 13 to November 10. Enrollment fee is \$14.00. Please call Mr. Michael P. Sipes at 237-4975 for further information.

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To Organizations that Use the Denver Botanic Garden Facilities

Are you planning special programs or events this year? If so, and they are open to the public, please remember that we would be glad to publicize these events in the Newsletter. The deadline for articles is the tenth of the month preceding publication.

* * * *

By now our readers will have had a chance to read the last *Green Thumb*. Those who particularly enjoyed the article on marine algae by Lou Hagener may be interested in visiting the Herbarium for many specimens of this colorful group of plants are on display there. These sheets will provide an opportunity to examine in more detail such plants as *Scytosiphon lomentaria*, *Gigartina papillata* and *Porphyra lanceolata*.

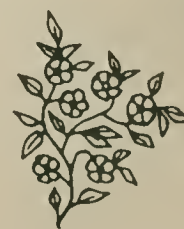
* * * *

MORE ABOUT ROSES

Once more the gruelling two-year tests are over and three proud new All-America Award winners for 1974 have been announced. *Bahia* is an exceedingly floriferous orange tinged pink floribunda; *Perfume Delight*, the only hybrid tea 1974 All-America Award Winner, is a richly fragrant clear pink hybrid and *Bon Bon*, a delightful pink and white bicolor is one of the finest floribundas ever to be offered for general home and public landscaping. These plants will not be offered for sale until Fall 1973 and Spring 1974.



Green Thumb Newsletter is published monthly by Denver Botanic Gardens, Inc., 909 York Street, Denver, Colorado 80206. The Newsletter is included as a benefit of membership in the Denver Botanic Gardens, regular membership dues being \$7.50 a year. Items for publication are welcome. The deadline for copy to the editor is 2:00 p.m. on the 10th of each month preceding publication. Editor — Margaret Sikes, 297-2547, Ext. 23.



GARDENING TIPS FOR OCTOBER

October is a favorite time of year for gardeners because it provides opportunities to recondition the soil for the next growing season and to make changes in the garden. Soon the lawn mower can be put away for the year since it will not be needed for the weekly mowing task. More time can be spent on flower and vegetable gardens.

Fall is an ideal time to spade in compost, but the soil should be left in large lumps to let nature break it down through the long winter. By spading in compost now, space will be made available for new garden debris which should be cleaned out at this time.

There must be hundreds of ways to make compost. One good method, where space is limited, is to compost in the garden rather than piling it. This means that the plant vegetation must be cut up while green and spaded in immediately so decomposition can take place even before winter sets in. This method has worked fairly well and accomplished both tilling of the soil and getting rid of the garden wastes at the same time.

For those who think that compost adds a lot of fertility to the soil, I should cite some recent research conducted by the Connecticut Experiment Station and presented in Bulletin 727, titled "Biochemistry and Methodology of Composting" by Raymond P. Poincelot. According to this report, the average nitrogen level in finished compost is about two per cent, most of which is not readily available to the plant. Phosphorous averages less than one per cent and potassium about one per cent. Compost, therefore, is really a soil amendment which improves the tilth more than the nutrient levels. But, in improving the tilth of the soil one also improves the root zone environment, making it easier for plants to obtain nutrients.

Some things to avoid in composting:

- (1) Despite the fact that heat may build up in a compost pile, it is not always sufficient to kill weed seeds. Some weed seeds have been found to survive in compost piles for two or three years. When the compost is tilled into the soil the seeds are brought to the surface, whereupon they germinate. Avoid adding weeds when seed heads are on them.
- (2) To keep down flies and to keep your neighbors happy, avoid using animal by-products in your compost.
- (3) Woody twigs and clippings from evergreens generally break down slowly and usually produce a stringy compost. Such materials should not be placed in the pile unless chopped finely first.
- (4) If grass clippings are used they should be stirred into the compost thoroughly rather than placed in layers. Layers of grass clippings usually produce a gooey mass which acts as a barrier to air and water. This results in an anaerobic composition which produces foul odors and unsatisfactory compost.

Compost can be speeded up by securing a grinder, available at some of the garden centers. Another method, which will require strict safety procedures, is to use a rotary mower. The area in which the rotary mower is used to grind the material should be smooth and free of rocks and debris.

Fertilizing

October is a good time to fertilize the lawn. For those who prefer to do it once a year, now is the best time. During cool seasons, bluegrass lawns tiller (grow sideways), making the lawn much more dense. This can be encouraged with an application of 20-10-5 or a similar fertilizer analysis. Lawns fertilized now will green up nicely in the spring and should not require an additional application until late spring or early summer.

Mulches

If you are doing any fall transplanting, whether herbaceous perennials or trees and shrubs, consider the use of mulches to help keep the soil from freezing too soon. This will tend to encourage more root regrowth before winter sets in and can spell the difference between success and failure. Not all organic materials make good mulches. For example, peat moss and other finely pulverized organic matter will develop a crust on the surface and thus act as a barrier to both air and water penetration. The best mulches are coarse and do not readily become packed. Wood chips, ground corn cobs and similar materials make excellent mulches. To be effective, they should be four to six inches in depth around the base of the plants. For more information on mulches call 355-8306 for a copy of Service-in-Action Leaflet No. 7.214.

Bulbs

REMINDER: Get your bulbs now for spring enjoyment. Spring-flowering bulbs can be planted at any time; the earlier the better and the better quality bulbs you will be able to buy.





The Botanic Gardens House at 909 York St. has been designated as an official Denver landmark in recognition of the great value of the facility as well as the outstanding quality of the architecture of the structure.

The House was built in 1923 for Mr. and Mrs. Richard Crawford Campbell. Later it was bought by Mr. Elmer Hartner, President of Western Seed Company, and then in 1958 it was purchased by Mrs. James J. Waring and given to the Denver Botanic Gardens. It has been dedicated to the memory of Mrs. Waring's father, Mr. Henry M. Porter, a noted Denver benefactor.

The building was designed by Jacques Benedict and the ceilings in the drawing rooms and the arches in the foyer were painted by John Thompson. The lovely rugs were made especially for the rooms and much of the furniture was purchased by the Campbells on their European travels.

The Denver Landmark Preservation Commission was created by the Landmark Ordinance of Denver, passed by City Council in 1967. The Commission has the responsibility of identifying structures and districts having historic, architectural or geographical importance. Designation of a structure or district as a landmark places no restrictions on the ownership or use of the property; it does not apply to the interior of the structure; it does not alter the status of the zoning; and it does not directly affect the value of the property.

GOOD NEWS FOR THE MISSOURI BOTANICAL GARDEN!

Mrs. Chard P. Smith has recently moved to St. Louis where her husband has accepted the position of Headmaster of the St. Louis Country Day School. Dusty, as she is known to all at the Denver Botanic Gardens, was one of the founders of the Associates, Annuals Chairman at the Plant Sale, Past President of the Guild, and a member of the Garden Club of Denver. One of her farewell presents was a membership in the Missouri Botanical Garden and we can assure everyone there that they are getting a marvelous worker, one who is enthusiastic, energetic and efficient in all she undertakes.

ASSOCIATES ANNUAL MEETING

Members of the Associates will be guests of the organization at the Annual Meeting & Luncheon October 4th at 10 a.m. in Horticulture Hall. Ann Zwinger, popular author and lecturer, will speak at the luncheon. Her talk "Land Above the Trees" will be accompanied by a slide presentation. All Associate members are urged to make reservations at the gift shop by October 1st.



BUSY, BUSY, BUSY

Members of the Denver Botanic Gardens who spent last winter in Denver will certainly understand if it seemed to be late this summer before plantings were underway. In fact nothing much could be done until the annual beds were completed and they were finally finished on June 26! However, since then the gardeners have been hard at work and 411 deciduous and evergreen trees and shrubs have been planted. The list includes:

Artemisia abrotanum (Southernwood Artemisia); *Cotoneaster acutifolia* (Peking Cotoneaster); *Parthenocissus tricuspidata* 'Engelmann' (Engelmann Ivy); *Potentilla fruticosa* 'Tangerine' (Tangerine Cinquefoil); *Prunus x cistena* (Purpleleaf Sandcherry); *Rhus aromatica* (Fragrant Sumac); *Viburnum bodnantense* (Bodnantense Viburnum); *Crataegus ambigua* (Russian Hawthorn); *Elaeagnus angustifolia* var. *orientalis* (Oriental Russian Olive); *Prunus maackii* (Amur Chokecherry); *Pyrus calleryana* 'Bradford' (Bradford Pear); *Pyrus ussuriensis* (Ussurian Pear); *Sophora japonica* (Japanese Pagoda-Tree); *Syringa amurensis* var. *japonica* (Japanese Tree Lilac); *Juniperus chinensis* 'Armstrong' (Armstrong Juniper); *Juniperus chinensis* 'Gold Coast' (Gold Coast Juniper); *Juniperus chinensis* 'Sea Green' (Sea Green Juniper); *Juniperus chinensis* var. *sargentii* (Sargent Juniper); *Juniperus chinensis* var. *torulosa* (Hollywood Juniper); *Juniperus horizontalis* var. *plumosa* (Andorra Juniper); *Juniperus horizontalis* (Silver Spreader); *Juniperus horizontalis* (Mint Julep); *Juniperus sabina* 'Arcadia' (Arcadia Juniper); *Juniperus sabina* 'Buffalo' (Buffalo Juniper); *Picea engelmannii* (Engelmann Spruce); *Pinus flexilis* (Limber Pine).

CALENDAR OF EVENTS

OCTOBER, 1973

OCTOBER

[illegible]

NOVEMBER

* Members or enrollees only

CHRISTMAS SALE

Around the Seasons is getting ready for the Christmas Sale and needs some help. Does anyone have seeds of money plant, statice, golden yarrow, teasel and allium or acorns, buckeyes, horse chesnuts, and sweet gum balls? Also needed are pods of oriental poppies, siberian iris, wisteria, okra, trumpet vine and anything else in the dried line like grasses, pods or nuts that might be unusual or interesting.

Please bring to the Botanic Gardens House, 909 York on October 18 before 12 o'clock or call 297-2547, ext. 23 for further information

AND

CIRCLE YOUR CALENDAR AND SAVE YOUR MONEY!

Annual Gift Shop Christmas Sale
November 16 and 17, 1973

The Fourteenth Annual Children's Garden Graduation Program was held Saturday, September 8 in Horticulture Hall. Certificates were presented to 114 children (60 beginner and 54 advanced gardeners). Garden winners in the advanced group were: 1st — David Horsley, 2nd — Kenneth Horton, 3rd — Roxane Seney. Beginning gardener winners were: 1st — Douglas Schwieder, 2nd — Danny Moe, 3rd (tie) — Nancy Boggus and Teresa Wiedel. Entertainment attractions during the program were two gardening skits written by two advanced gardeners — Julianne White and David Horsley. Trecia Kennedy read her composition "What My Garden Means To Me." Following the graduation program, garden fair exhibits were on display in the hall and the children's garden was open for viewing.

HELP PLEASE

Library Volunteers are needed particularly on Wednesday, Thursday, and Sunday afternoons. Duties may include circulation, typing, classification and cataloging of collections and of new books, and sorting and classifying recently acquired pamphlets. These projects and others would be completed more quickly with more help; please call Solange Huggins, 297-2547 or come in. We will be happy to give you a tour of the Library.

* * * *

On Wednesdays, beginning October 3, 1973, the library will be open from 9 AM to 9 PM. The longer hours will be available on a trial basis.

MOVING TO SMALLER QUARTERS?

Remember when facing the prospect of a move that the Gardens are always interested in receiving books. Titles in horticulture and gardening are of course very welcome but all sorts of books from mystery novels to cookbooks can be put to good use at the Book Sale next year. Please bring them to the Library or let us know if we can provide pick-up service.

LECTURE ON ROSES

Mrs. Herbert Franson will present an illustrated lecture on "Today's Roses, History and Development" on October 20 at 10 a.m. in Horticulture Hall. Mrs. Franson is eminently qualified on this topic for she is an American Rose Society Judge, a National Council Judge, a fourteen year member of the American Rose Society and a former member of the Denver Rose Society. She also is a member of the Denver Botanic Gardens, was an officer in Around the Seasons, an Associate who received her 1000 hour pin for service, and a Conservatory Tour Guide. The visit will be in the nature of a home-coming for her and an opportunity for her many friends to greet her!

Her lecture, free and open to the public, will be co-sponsored by the Denver Rose Society.



BITS AND PIECES

Since the first of April, the Denver Botanic Gardens has hosted over 100,000 visitors as indicated by the turnstile count.

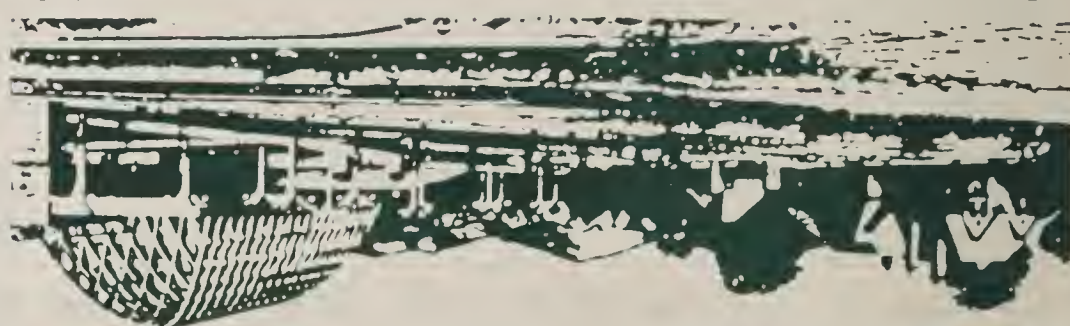
The Colorado Mountain Club will hold its 55th Annual Black and White Photo Exhibit in Horticulture Hall on October 25 at 8 p.m. This is the oldest continuous black-and-white print exhibit in the state and one of the oldest in the nation. It is well worth attending.

Woody Allen, writer, musician and movie actor, recently was here at the Gardens filming scenes for his new picture. Currently its title is "Sleeper" and (unless this portion ends on the cutting room floor) when it is released, members can watch for shots of a plastic bubble being pulled along the roof of the conservatory.

As usual, *The Garden Journal* of the New York Botanical Garden has many interesting articles. The August issue has one of particular interest for those who attended Mrs. Hilton's talk in May. "After Ten Years" is an evaluation of the Cooperative Education program that she explained to us then.

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Plant of the Month

Acer saccharum. The Sugar Maple is more common in Denver and other Colorado communities than most might think. While it does not adapt to all of our soils and particularly to the more alkaline and heavy clays, it has proven to be a satisfactory tree where soils and drainage permit.

The sugar maple is a much stronger tree than a close relative, the Silver (Soft) Maple, and, furthermore, suffered no significant damage in our recent snow storms and hard freezes. In years when fall colors are brilliant, the Sugar Maple stands out with its orange and reddish hues.

One of the finest specimens of this tree is located at 2318 Colorado Boulevard. It measures about 50 feet in height with a trunk diameter of more than 22 inches. A survey made in 1969 by E. Alan Rollinger located 87 sugar maples in the City of Denver with a trunk diameter of 7 inches or more — the largest one about 25 inches.

Consider using a Sugar Maple perhaps as a replacement for a tree lost to Dutch elm disease. Before doing so, however, it would be advisable to have your soil tested. If the pH does not exceed 7.5 and is reasonably well drained, you should have success with a Sugar Maple.

Dr. J. R. Feucht

ORCHID PLANT AUCTION

The Denver Orchid Society which meets at the Denver Botanic Gardens at 7:30 P.M. the first Thursday of each month will hold an auction of orchid plants, Thursday evening October 4, 1973 in Horticulture Hall, 1005 York Street.

This event which will be open to the public is sponsored by the Denver Orchid Society to raise funds for hosting the Annual Meeting and election of officers of the American Orchid Society in the fall of 1975.

Top quality orchid plants for this auction will be furnished by nationally known commercial orchid growers as well as by members of the Denver Orchid Society.

This will be a splendid opportunity for those interested in adding orchid plants to their present collection or to become a first time owner of an orchid plant which can easily be grown in the home.

REMEMBER THE DATE: October 4, 1973

PLACE: Denver Botanic Gardens, Horticulture Hall,
1005 York Street

REMEMBER: The public is invited.



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GARDENING TIPS FOR NOVEMBER

This is the time of year when I like to think that all the gardening chores are over with for the year and I can turn my attention to other things. Yet, as I look around the yard I see many small tasks which need doing. Perhaps this will be a reminder to you too. For instance, this fall, when the nights were getting cool, the lawn crept into the flower beds. This went almost unnoticed, but now it is obvious that lawn edging needs to be done. Blue grasses do creep best in the cool periods in spring and fall. If you take advantage of the moist soil and edge your lawn before it becomes firmly frozen you won't have to worry about the lawn edging until next spring.

With all of the other chores during the summer and early fall, including mowing, watering and fertilizing, we often tend to ignore pruning. Actually, late fall and winter is the best time to prune anyway. On deciduous trees and shrubs you can better see what you are doing without the foliage. On evergreens, the clippings come in handy for seasonal decorations. Don't forget, however, that if you prune back the tips on spring flowering trees and shrubs you will also be removing the flower buds. Therefore, it is a good idea to do a thinning type of pruning, removing entire branches where they are interfering with other growth or those that are weak, diseased or insect-ridden. In this way you can also help to control some insect problems such as the oyster shell scale in lilacs. Those canes that are heavily coated with the scale can be removed now and destroyed. Usually, canes that are in such condition produce poor, if any, flowers the next growing season anyway.

If you are trying to delay the emergence of bulbs next spring, plan to apply a loose mulch material after the ground has become firmly frozen. The mulch will tend to insulate, keeping the soil cold for a longer period. Thus the shoots will not emerge prematurely. Avoid mulches that tend to compact such as peat moss. Coarse compost, wood chips and other chunky type organic material is more suitable because it allows moisture and air to penetrate yet provides some insulation. To be effective, these materials should be applied at least 4 inches deep.

If you have not already done so, now is a good time to get your gardening tools cleaned up, oiled and put away for the winter. Metal surfaces can be coated with a light oil after making sure that all dirt and loose rust has been scraped away. Lawn mowers should be winterized. The four cycle engines should have the crank case drained and the oil either replaced with a clean oil or left drained. If the latter, be sure to put a note on it that the crank case has not been filled. To avoid the spring rush, now is a good time to have your lawn mower sharpened and other repairs made. Storing the two cycle engine mower is a little more simple, but to prevent corrosion of the cylinder walls it is best to remove the spark plug, put in a teaspoonful of 30 weight oil and replace the plug.

There are various ways to store hoses for the winter. A good quality rubber hose can even be stored outdoors under the eaves of the house or the overhanging branches of an evergreen providing they are properly drained. It is not ad-

visable to store plastic hoses outdoors. One idea to store hoses out of the way is to coil them inside the tires you take off for the winter when putting on your snow tires.

Don't forget to bring all sprinkler heads indoors. Water freezing in the mechanisms of some of the more sophisticated sprinklers will damage them. Underground sprinklers should be adequately drained.



Tree of the Month

Platanus occidentalis. The Sycamore can frequently be found in the Denver area but its success depends almost entirely on the type of soil. Like many trees that are not truly native in this area, this species becomes severely chlorotic in alkaline soils. Where the soils are at least neutral, the tree seems to thrive and becomes picturesque in the late fall and early winter because of the globe-like fruit silhouettes against the sky and the interesting, blotchy, white and green bark.

Some of the nicest specimens can be seen on Marion Parkway between Alameda and Virginia Avenues and in Fairmount Cemetery.

One of the most severe problems other than the chlorotic condition is anthracnose disease. Anthracnose was severe this past year, causing a good deal of defoliation. Preventive sprays with fungicides at the time the leaves unfold can reduce this problem.

Despite the problems this tree has, it is still nice to see around the streets of Denver because they help break up the monotony with their unique bark and foliage.

—Dr. J. R. Feucht

CHRISTMAS SALE
November 16 and 17, 1973
10:00 A.M. to 4:30 P.M.



Treasures have been gathered from all over the world for this year's annual Christmas Sale at the Denver Botanic Gardens.

Be sure to see the carved soapstone vases from mainland China. They come in a lovely selection of natural colors with floral motives carved deep into the vase. Too, there are many traditionally shaped sandalwood fans and boxes; Oriental pin cushions; alabaster eggs each complete with its own brocade box; and lovely table decorations. Perhaps a stone inlaid screen may be your selection or how about a glass flowering tree for that special accent? Each is about one foot high. And what else from China but a china teapot. Every time a friend pours a steaming cup of tea during the cold months, she will appreciate your thoughtfulness!

A breath of spring on a dark winter day can be provided if you select a Delft bowl from Holland planted with fragrant paper white narcissus.

A fascinating cavalcade of Beatrix Potter characters can be yours. Choose the Tailor of Gloucester, Mrs. Tiggy-Winkle, Jeremy Fisher or of course Peter himself - all in lovely natural colors. Too, why not pick up the story books to complement these well beloved animals.

For the gourmet cook, we have hand carved, wooden, kitchen tools and canisters from Mexico. And again this year beautiful Christmas creches from Germany are available. Come early for the best selections.

Closer to home, the Associates of the Denver Botanic Gardens will feature many items from native artists. Look for wild flower book marks; hard wood cutting boards; chokers made with a real maple leaf pendant; aspen pins and vases, brass belt buckles, with a western motive; tranquility pillows; hand crafted leather goods such as key rings, hair barrettes, and hip pouches. Watch for one of a kind figures made from nuts and cones. For a stocking stuffer, check our fisherman with his catch or for your favorite duffer, the "golf nut" (made of nuts of course).

Make this a fragrant Christmas! One of the most popular sections of all is that featuring potpourri. Information and ingredients are available so that you can blend that one exclusive, illusive fragrance of your own.

Books are always a must for Xmas giving. There are marvelous photographs in *The Magnificent Rockies, West of the Continent* or Anton Bruehl's *Tropic Patterns*; be sure to look at *Wild Wealth* which explains ecological arrangements with clear instructions; *Great Botanical Gardens of the World* will broaden anyone's horizons or perhaps may be just the right present for the traveler on your list! Other titles span all interests from *Exotic Mushrooms* to *Great Flower Painters*, *Four Centuries of Art and Flowers* and *Trees of Tudor England*. With "how-to" books such as *Herb Gardening*, *Making Things Grow Outdoors* by T.V.'s Thalasso Cruso, and *The Well Tempered Garden*, no green thumb need feel left out. George Kelly's book, *Rocky Mountain Horticulture*, a must for our area, is a fine present for the new gardener. Of course, children's books abound - beautifully illustrated and entertainingly written.

And everyone will need a 1974 calendar. View our selection of reasonably priced ones such as *Beautiful America*, *Ice - Axe* and *Ski* or *Pressed Flowers*.

You must not forget the children on your list. Catch a child's eye with a crazy, calico figure! Mother Goose comes equipped with sunbonnet on her head and patchwork eggs in her basket. Or imagine the delight of a little girl with Tabitha the Cat or the doll, Sunbonnet Baby. A flower coloring book can help keep the little one quiet and amused and the Gift Shop has a complete line of new wooden toys, many with moveable parts.

Or perhaps you wish to start a family tradition. Choose a Christmas tree ornament for each member of the family. We have Whimsey Dolls that are 3 inches high all hand painted, made of cookie dough and one of a kind. Other ornaments include apples, bees, birds, and butterflies.

Need something more for the house? Consider the ever practical and welcome place mats of the sunburst design; lovely linen towels; baskets and watering cans are always a useful item and look at our selection of garden plaques or ceramic baskets with woven handles. For easy indoor garden- ing, get hanging leaded glass terrariums or bottles on iron stands. You may buy them already planted or can select your own plants. Add the touch of distinction to your desk, mantle, wall shelf, or table with specially chosen ceramic and china figurines. All modeled with skillful attention to detail. Like to make your own original creation? Stop by the dried plant section and marvel at the variety nature herself can provide and then give your imagination free play. Special notice: Mrs. Avalonne Kosanke will teach a *Dried Flower Arrangement* class in January and this will be the perfect place to buy material for your assignments!

Other items to watch for include the ever so popular herb vinegar, only available at the Denver Botanic Gardens Gift Shop and purchase your herb bookmarks, labels, recipe cards and of course herb salt. Possibly the best selection of wind chimes in the city can be found under the roof of 1005 York St. on November 16 and 17. How lovely to listen to them outside your window, as they sway softly and tinkle gently in the breeze. Choose from bamboo, ceramic, brass, leaded glass or (as a special feature), those made from recycled colored glass.

Over 50 ladies have worked for months to provide this carnival of values. Come and support this grand effort of the volunteers.

Finally if you are completely overwhelmed by Christmas Shopping, one final suggestion: don't overlook the benefits of membership at the Denver Botanic Gardens.

1. Twelve issues of the *Green Thumb Newsletter*, one each month of the year, with monthly gardening tips for the Denver Area, and the complete monthly program of the Denver Botanic Gardens.

CALENDAR OF EVENTS

NOVEMBER, 1973

NOVEMBER

[illegible]

CALENDAR OF EVENTS – NOVEMBER, 1973 (Continued)

16)	10:00 a.m.	Ed. Bldg. — Horticulture Hall	GIFT SHOP ANNUAL CHRISTMAS SALE — OPEN TO PUBLIC 10:00 a.m. — 4:30 p.m.
16)	7:30 p.m.	Ed. Bldg. — Lecture Room “A”	Colorado Bonsai Club
16)	7:30 p.m.	Ed. Bldg. — Herbarium	Botany Club
17)	10:00 a.m.	Ed. Bldg. — Horticulture Hall	GIFT SHOP ANNUAL CHRISTMAS SALE — OPEN TO PUBLIC 10:00 a.m. — 4:30 p.m.
18)	2:00 p.m.	Botanic Gardens House — Main Dining Room & Kitchen	Hemerocallis Society
♦ ♦ ♦ ♦ ♦ ♦ ♦ ♦ ♦ ♦ ♦ ♦ ♦ ♦ ♦ ♦ ♦ ♦			
19)	* 10:00 a.m.	Botanic Gardens House — Dining Room	House Committee Meeting
19)	* 1:30 p.m.	Ed. Bldg. — Lecture Room “B”	General Botany — Dr. Denham
20)	* 9:00 a.m.	Ed. Bldg. — Lecture Room “C”	Civic Garden Club
20)	* 12:00 Noon	Botanic Gardens House — Main Room	African Violet Council
20)	* 2:00 p.m.	Ed. Bldg. — Lecture Room “B”	Tropical Plants for Home & Garden — Mr. Bibee
20)	7:00 p.m.	Ed. Bldg. — Horticulture Hall	Sierra Club
20)	7:00 p.m.	Ed. Bldg. — Lecture Room “B”	Jr. Bonsai Club
20)	7:30 p.m.	Botanic Gardens House — Main Room	Audubon Society
22)	HAPPY THANKSGIVING!		
♦ ♦ ♦ ♦ ♦ ♦ ♦ ♦ ♦ ♦ ♦ ♦ ♦ ♦ ♦ ♦ ♦ ♦			
26)	* 1:30 p.m.	Ed. Bldg. — Lecture Room “B”	General Botany — Dr. Denham
27)	* 2:00 p.m.	Ed. Bldg. — Lecture Room “B”	Tropical Plants for Home & Garden — Mr. Bibee
27)	* 4:00 p.m.	Botanic Gardens House — Conference Room	Board of Trustees Meeting
27)	7:30 p.m.	Ed. Bldg. — Lecture Room “C”	Gladiolus Society
28)	* 10:30 a.m.	Ed. Bldg. — Lecture Room “A”	Winston Downs Garden Club — Tour & Refreshments
28)	7:30 p.m.	Botanic Gardens House — Main Room	Plan Metro Denver
29)	* 2:00 p.m.	Ed. Bldg. — Lecture Room “B”	Tropical Plants for Home & Garden
29)	8:00 p.m.	Ed. Bldg. — Horticulture Hall	Colorado Mountain Club — Program
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DECEMBER

3)	1:30 p.m.	Ed. Bldg. — Lecture Room “A”	General Botany — Dr. Denham
4)	*10:00 a.m.	Ed. Bldg. — Herbarium	Herbarium Committee
4)	* 1:00 p.m.	Botanic Gardens House — Dining Room	Editorial Committee
4)	* 2:00 p.m.	Ed. Bldg. — Lecture Room “B”	Tropical Plants for Home & Garden — Mr. Bibee
4)	7:00 p.m.	Botanic Gardens House — Dining Room	Wild Life Committee of Audubon Society
4)	7:30 p.m.	Botanic Gardens House — Main Room	Colorado Mountain Club — Conservation
6)	7:45 p.m.	Ed. Bldg. — Horticulture Hall	Denver Orchid Society
7)	*11:00 a.m.	Botanic Gardens House — Main — Dining Rooms & Kitchen	Civic Garden Club — Christmas Tea — Dr. Gambill, Guest speaker
8)	10:00 a.m.	Ed. Bldg. — Lecture Room “A”	Colorado Organic Growers & Marketeers Assoc.
8)	1:00 p.m.	Ed. Bldg. — Horticulture Hall	GREEN THUMB GARDEN CLUB SHOW — OPEN TO PUBLIC 1:00 — 6:00 p.m.
9)	1:00 p.m.	Ed. Bldg. — Horticulture Hall	GREEN THUMB GARDEN CLUB SHOW — OPEN TO PUBLIC 1:00 — 6:00 p.m.

* Members or enrollees only

2. Four issues of *The Green Thumb* magazine, issued quarterly, with a wide variety of highly readable articles of lasting interest to plant lovers in the Rocky Mountain Region.

3. The privileges of checking out books from the Helen Fowler Library for your own personal use (non-members may use books only in the library, during library hours).

4. Discount of up to 30% on courses offered by the Denver Botanic Gardens.

5. Answers to your garden questions on flowers, shrubs, trees, and lawn.

6. Use of rooms in Botanic Gardens House and The Education Building of the Boettcher Memorial Center for flower shows, classes, study groups and other meetings pertaining to horticulture, botany, or conservation.

7. Identification of native and cultivated plants, both woody and herbaceous of the Denver Metropolitan Area, including the mountains.

8. Opportunity to participate in a wide range of activities sponsored by the Denver Botanic Gardens and its affiliated organizations.

All dues and contributions deductible from Federal Income Tax.

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DENVER ORCHID SOCIETY SHOW

November 2, 3, 4, 1973

Horticulture Hall, 9 a.m. to 5 p.m. every day.



NOTICE FROM THE BOTANY CLUB

If you have flower slides and need help with their identification, bring them to the meeting on November 16 at 7:30 p.m. in the Herbarium. Please call Mrs. Shepherd at 733-8229 or Margaret Sikes 297-2547 ext. 23, if you are coming.

NOTE!!!

Are you planning a move? If so, please let us know as far in advance as possible. We like to keep our mailing lists as correct as we can!

NEW PLANTINGS



More than 300 different varieties of hemerocallis (daylily) were planted during late August and early September. These are located in with the iris collection. Several award winners are included in this planting: 'Mary Todd' (tetraploid) — President's Cup Winner for 1972, and 'Emperor's Robe' and 'Lavender Flight' — Stout Medal winners (tie) for 1973. 'Red Mittens' was judged the best miniature variety in 1970. Several older award winners are also present including: 'Cartwheels' and 'Winning Ways'. In addition to the accustomed yellow, orange and gold colors you will find interesting red and purple shades as 'Raspberry Shortcake', 'Lavender Bonanza', 'Jubilee Pink', and 'Purple Splendor'. Hybridizers have been attempting to breed a pure white daylily but have not been successful as yet. 'Silver Moon' and 'Snowball' are two light cream varieties.

Several varieties of daffodils have been planted in among the above mentioned hemerocallis. This will give this area an extended blooming season beginning with the daffodils, followed by the iris and concluding with the daylilies. Large-cupped daffodils planted include: 'California Gold', 'Home Fires', 'Patagonia', 'Vulcan', 'Daviot', 'Rose Caprice', and 'Tudor Minstrel'. Small-cupped varieties will include: 'Carnmoon', 'Gossamer', 'Engadine' and 'Chinese White'.

Many of these were planted by volunteers who rushed to help when the call went out! Thanks to you all.

DO YOU HAVE A FEW HOURS A WEEK?

A few more volunteers are needed for the information desk in the lobby of the Education Building. This position involves meeting people from all over the U.S. and from many foreign countries. Excerpts from the hostesses notebook reflect the many different questions that are asked.

"Busy, steady stream of visitors, many from out of town."

"Is it possible to purchase a cutting from the plants of the Conservatory?"

"How is the water treated in the inside pool to keep it so clear and blue?"

"When is the best time to see blooms in the Conservatory?"

If interested in this opportunity for service, please call Mary Jacobson at 322-2090 or Margaret Sikes at 297-2547, ext. 23.

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At the American Horticulture Society meeting in New Orleans in October, the following song was sung:

UP WITH GARDENS – UP WITH PEOPLE
(Tune “Up with People”)

Well it happened just this morning, I was walking down the street.

The housewife and the gardener and the seedsman I did meet.
There in every window and in every single yard
I recognized plants I’d never noticed before.

CHORUS

Plants from the southland and plants from the north
Like a mighty carpet I saw them bursting forth
Well, it was a great reunion befitting of a king
Then I realized gardens are more important than things.

CHORUS

Well inside everybody there is some green and there’s some soil

But don’t let anybody start attacking plants this fall
Love them as they are but fight for them to be
Great people and great gardens as God meant them to be.

CHORUS

Up, up with gardens; you see ’em wherever you go
Up, up with gardens; there are more kinds of plants to know
If more people were plant people, all people everywhere
There’d be a lot less people to worry about
And a lot more people who’d care.

Instant Green in October

The Gardens suddenly sprang into midsummer greenness in October. After weeks and months of preparing the soil, meticulous sloping operations, and the installation of a complex sprinkler irrigation system, “instant grass” – rolled sod – was placed on two of the most prominent features of the Gardens’ plan.

Some 5600 square feet of deep green grass, a mixture of bluegrasses Fylking, Pennstar and Nugget, now covers the raised truncated pyramid, next to the pylons and upper lake, known as the View Mound. And the slopes of the outdoor amphitheater, a depression which visitors have been wondering about, are clothed with another 26,000 square feet of bluegrass sod; this time Adelphi, Nugget and Merion.

The improvement is startling and pleasing. Now the final shape and beauty of the new Gardens begins to rise out of the years of planning and construction. The Mound and the Amphitheater, alike in geometric shape but contrasting in their elevations, complement each other dramatically.

Grass covers all the seating area of the outdoor theater which will have a hard surface floor in its center. Trees around its perimeter, except to the north next to the Conservatory, will emphasize its depth and splendid acoustics. Even now a moderate voice from the theater carries easily to the top of the View Mound.

All this did not just happen. Botanic Gardens gardeners and staff people joined the workmen in an intense effort, often beginning before daylight in the morning, to complete the sod laying while the weather held. Instant grass came from dedicated and constant help.



Green Thumb Newsletter is published monthly by Denver Botanic Gardens, Inc., 909 York Street, Denver, Colorado 80206. The Newsletter is included as a benefit of membership in the Denver Botanic Gardens, regular membership dues being \$7.50 a year. Items for publication are welcome. The deadline for copy to the editor is 2:00 p.m. on the 10th of each month preceding publication. Editor – Margaret Sikes, 297-2547, Ext. 23.



REPORT FROM THE TOUR . . .

The Orient Tour left Denver October 20th with thirty people for three weeks.

We flew to Tokyo and spent two weeks in Japan — first in Honshu, then west and south to Shikoku and Kyushu. The group then went to Taiwan (Formosa) before the final stop at Hong Kong and Macao.

The variety of transportation types was intriguing — computer controlled airport subway rapid transit, plane, steamer, bullet train, bus, taxi, the Star Ferry, cable car, rickshaw, hydrofoil, junk, sampan, funicular. There was something for everyone, including some walking!

The choice item on the museum circuit was the National Palace Museum in Taipei. These Chinese treasures which came from the mainland just before the Communist takeover are beyond description and beautifully housed in a new museum. This was a superior collection of Chinese scrolls, porcelain, jade and bronze.

In Kyoto we saw the Nijo Castle with its large wall screens which were especially delicate and beautiful. These were done by artists from the Kano school.

The Tokyo National Museum had a special exhibit of textiles with an emphasis on kimonos and the National Museum in Kyoto had a definitive exhibit on Buddhist paintings from the Jodo Sect. The Museum of Modern Art had a special exhibit of Japanese artists working in the Americas.

In Tokyo Mr. Shimoyama (Chief, City Planning Association of Japan) welcomed us to Japan and during a private tour of the Mitsui Garden, gave us an informal interpretative lecture about the structure and makeup of Japanese gardens and their philosophical basis. This introduction made all of the subsequent Japanese Gardens more meaningful and provided the first “stepping stone” for our projected Japanese Garden in the Denver Botanic Gardens.

We saw many gardens in Japan including the Moss Garden, the Zen Rock Garden and the Imperial Gardens at Katsura and Shugakuin. The private garden of Mr. Kitmura in Kyoto may have been the highlight. We had tea, Japanese style, in a garden viewing room in this lovely home. The exquisite garden with its ancient stone lanterns, exotic colored fish and manicured trees and shrubs was very beautiful.

In Hong Kong we saw the Kadoorie Experimental Farm which is a private counter-communist agricultural project established to improve the strain of pigs, ducks and pigeons and the quality of vegetables for the benefit of the local farmers.

Autumn is a perfect season in the countries we visited. It rained only one day and although Fuji was shrouded in clouds, the sun was almost always present.

So many unusual things — Japanese maple leaves in color beside the mountain water falls; cascading mums everywhere (in the shops, the streets, the homes and in competitive display); bonsai in every nook and cranny. Ikebana flower arrangements in our rooms; black camellias; azaleas, wild orchids; rice paddies; eel ponds; tea bushes and deer stoppers here and there.

We also saw the marble cliffs of Taroko Gorge in Taiwan; the beauty of the Japanese inland sea from the steamer at sunset; Dr. Gambill eating soybean curd and rice with chop sticks; the Kabuki theater; the incredible display of jade, gold, marble and pearls in the shops; Shinto Shrines and Buddhist Temples; Red China across the Channel and Red Chinese trucks loaded with pigs in bamboo baskets.

It was a fun trip to an exciting and lovely portion of our world.

—Alice Collister



Tree of the Month

Austrian Pine, *Pinus nigra*. The Austrian Pine might well be considered the European counterpart of our native ponderosa. In many respects they are similar, having rather long needles in comparison to other species and often developing into an open, broad shape unlike many other evergreens. From the standpoint of adaptability to soil differences, the Austrian Pine seems to be better able to cope with a wide variety of soils and drainage patterns. None of the pines grown locally do well in a poorly drained soil, yet the Austrian Pine adapts better than a ponderosa. It also differs from ponderosa in normally having a denser foliage, deeper green color and a darker bark.

Close range differences between Austrian and ponderosa are that the Austrian normally has two needles per cluster and the ponderosa three, although clusters of twos and threes will be found on the same specimens of both species. The preponderance are twos in Austrian and threes in ponderosa.

Perhaps the most striking difference is the winter bud. Austrian Pine has a rather fat turban-shaped bud covered with grayish-white resinous scales. The ponderosa bud is elongated, more of an orange color, and has little if any resin.

Some of the most attractive Austrian Pines may be seen in Denver's City Park, Washington Park and Cheesman Park. What better time to appreciate an evergreen tree than now in winter?

Dr. J. R. Feucht

YOU DID IT AGAIN!

Again our thanks to the volunteers who worked for months selecting gifts from all over the world or who collected nature's bounty and created artistic treasures from it for the Annual Christmas Sale. The shoppers who thronged to the Gardens were properly appreciative of all the work and planning before and on the days of the sale and the event was a smash success.

* * * * *

The Winter List of Classes has been mailed and many of the members have received it by now. In fact, some money and registration forms have been returned. This is a wise policy for many classes are limited in size. We have had some questions about the necessity for class limits especially as concerns General Botany. One of the problems is that of microscopes. Thanks to Dr. D. H. Mitchel, the Denver Botanic Gardens owns a few microscopes and we were fortunate enough to borrow others, fifteen in all. Second hand microscopes are almost impossible to find in the trade and new ones are very expensive. Please bear with us as we develop our laboratory facilities and purchase needed equipment.



Remember *Guiding Is Fun*. Join 40 fourth graders from Bear Creek Elementary School on December 12 or 45 sixth graders from Maple Grove on December 17 for a tour of the Conservatory. (Of course, we hope those attending will enjoy the experience and wish to sign up for *Tropical Plants of the Conservatory*, the guides training class. It will be on Wednesday afternoons from January 9 to April 3, 1 to 3 p.m.) Get your name in if you are interested in either of these tours.

Lee Ashley will teach a *Floral Design Workshop*, primarily planned for would be florists, through the Community College of Denver. This 10 week class will meet on Tuesday and Thursday nights from January 8 to March 12 from 7 to 9 p.m., Classroom B. Please call 266-1881 for information as to cost and to register.

At long last progress is evident on the new Greenhouses! The erection of the superstructure will be completed early in 1974. This project was begun as part of the service area development which started in 1971 when the two foundations, under drains, etc., were constructed. The complex which includes two greenhouses (called at this time for convenience "number 3 and 4"), hall space, research and propagation areas totals 7174 additional square feet of space under glass. Lord and Burnham of Irvington, New York, makers of greenhouses for over a century, are the manufacturers and Nexus Corporation is doing the construction which is to include the erection of the buildings, installation of the heating, plumbing and electrical work, and all automated controls in both the new and old greenhouses.

An interesting feature is that Greenhouse Number 3 is divided into three separate compartments: the first will be for small and medium sized tropical plants; the second for orchids and bromeliads; and the third for cacti and other xerophilous plants. Greenhouse number 4, which has no permanent fixed benches, was designed to accommodate the larger potted plants that need extra head room.

There are four benches in the propagation and research chambers. A unique plan has been devised so that each bench may be set on an individual climate control. This will provide four growth chambers within each large one.

It is planned that the older greenhouses will be used for cultivation of bedding plants and for floral display purposes when the new ones are completed.

Funds for these much needed improvements have been provided by a bequest from Dr. John Long's estate and by the Associates of the Denver Botanic Gardens.

* * * * *



It is not too late to remember a friend for Christmas with a Gift Membership to the Denver Botanic Gardens!

* * * * *

Newly elected officers of the Colorado Garden Show, Inc., are Lou Haines, Superintendent Denver Country Club, President; Dave Boyle, Colorado State University, Extension Service, Vice-President; Gene Eyerly, Lou Hammer, Inc., Treasurer; and Beverly Nilsen, Denver Botanic Gardens, Secretary.

Also elected were these members of the Board of Directors: Jack Butler, Extension Associate Professor, C.S.U.; James Feucht, C.S.U. Area Horticulturist; Ann Moss of the Colorado Federation of Garden Clubs; Ken Vetting, Rocky Mountain Seed Co.; Tom Woodman, Woodman Brothers Nursery; Merle Woods, Arapahoe County Extension Office; and Jerry Morris, Rocky Mountain Tree Experts, ex-officio member.

Plans are underway for the 15th Annual Colorado Garden and Home Show to be held at Denver's Currigan Hall, Feb. 1-10, 1974. The show, co-sponsored by the Colorado Horticultural Industries and Home Builders of Metro Denver, will be themed "Colorado Color '74". Features for this popular show will include the distinctive international attraction "Dancing Waters", gardens designed by Colorado's leading landscape architects, flower show, home and garden seminar theatre and extensive home and garden exhibits.

Max Capron, General Manager of Marshall Nurseries, will again design the show and Dick Haughton, President of Industrial Expositions, Inc., is the show manager.

CALENDAR OF EVENTS

DECEMBER, 1973

DECEMBER

3)	* 1:00 p.m.	Botanic Gardens House - Main Room	Plants Conservation Center
3)	* 1:30 p.m.	Ed. Bldg. - Lecture Room "B"	General Botany - Dr. Denham
4)	* 10:00 a.m.	Ed. Bldg. - Herbarium	Herbarium Committee
4)	* 1:00 p.m.	Botanic Gardens House - Dining Room	Editorial Committee
4)	* 2:00 p.m.	Ed. Bldg. - Lecture Room "B"	Tropical Plants for Home & Garden - Mr. Bibee
4)	7:00 p.m.	Botanic Gardens House - Dining Room	Wild Life Committee of Audubon Society
4)	7:30 p.m.	Botanic Gardens House - Main Room	Colorado Mountain Club - Conservation
4)	7:30 p.m.	Ed. Bldg. - Horticulture Hall	Capitol Hill United Neighborhood
6)	7:45 p.m.	Botanic Gardens House - Main - Dining Rooms & Kitchen	Denver Orchid Society - Christmas Party
7)	* 11:00 a.m.	Botanic Gardens House - Main - Dining Rooms & Kitchen	Civic Garden Club - Christmas Party Dr. Gambill, guest speaker
8)	10:00 a.m.	Ed. Bldg. - Lecture Room "A"	Colorado Organic Growers & Marketers Assoc.
8)	1:00 p.m.	Ed. Bldg. - Horticulture Hall	Green Thumb Garden Club Show - OPEN TO PUBLIC 1:00 - 6:00 p.m.
9)	10:00 a.m.	Ed. Bldg. - Horticulture Hall	Green Thumb Garden Club Show - OPEN TO PUBLIC 10:00 a.m. - 5:00 p.m.

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10)	*	1:30 p.m.	Ed. Bldg. Lecture Room "B"	General Botany Dr. Denham
10)		7:30 p.m.	Botanic Gardens House – Main Room	Wild Life Committee of Sierra Club
11)	*	4:00 p.m.	Botanic Gardens House Dining Room	Executive Committee
11)		7:00 p.m.	Botanic Gardens House Main – Dining Rooms & Kitchen	Sierra Club – Christmas Party
11)		7:30 p.m.	Ed. Bldg. Lecture Room "C"	Rocky Mountain Succulent Society
12)	*	6:30 p.m.	Ed. Bldg. – Horticulture Hall	Parks & Recreation Christmas Party
12)	*	8:00 p.m.	Botanic Gardens House – Dining Room	Landscape Industry Council
13)		7:30 p.m.	Ed. Bldg. – Lecture Room "B"	Sierra Club
14)		7:30 p.m.	Botanic Gardens House – Main Room	Dahlia Society
15)	*	7:30 p.m.	Botanic Gardens House – Main – Dining Rooms & Kitchen	Colorado Bonsai Club - Christmas Party

[illegible]

17)	* 1:30 p.m.	Ed. Bldg. - Lecture Room "B"	General Botany - Dr. Denham
18)	7:00 p.m.	Ed. Bldg. - Lecture Room "B"	Jr. Bonsai Club
18)	7:30 p.m.	Botanic Gardens House - Main Room	Audubon Society
20)	*10:00 a.m.	Botanic Gardens House - Main - Dining Rooms & Kitchen	Around The Seasons - Christmas Party
20)	7:30 p.m.	Ed. Bldg. - Lecture Room "C"	Organic Gardening Club

[illegible]

25)				"MERRY CHRISTMAS"	
27)	8:00 p.m.	Ed. Bldg.	Horticulture Hall		Colorado Mountain Club Program

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1974

JANUARY

"HAPPY NEW YEAR"

1)	7:30 p.m.	Botanic Gardens House - Main Room	Colorado Mountain Club - Conservation
3)	7:45 p.m.	Ed. Bldg. - Horticulture Hall	Denver Orchid Society
5)	9:30 a.m.	Botanic Gardens House - Main Room	Gloxinia Gesneriad Growers

*Members or enrollees only.



Please Help

The University Thrift Shop, 600 Ogden, is having a benefit for the Denver Botanic Gardens the week of January 7 to 12. Some acceptable items include: clothing (clean and in wearable condition), shoes, gloves, sports equipment, records, school supplies, table linen, bedspreads, blankets, kitchenware, office supplies and furniture. Please be selective in the choice of items to be donated. The shop wants good quality merchandise, clean and serviceable, not rummage. It would be helpful to all if the items could be received before 3:00 p.m. The hours are Monday through Friday, 9:00 a.m. to 4:30 p.m. and 9 to 4 p.m. on Saturday.

Flower Show

The Green Thumb Garden Club will present "Winter Magic" on Saturday, December 8 from 1 p.m. to 6 p.m. and on Sunday, December 9 from 10 a.m. to 5 p.m. in Horticulture Hall. This standard flower show which is free and open to the public will display many seasonal ideas for decorating at the holiday time. Come see "The Festive Board" featuring centerpieces or "Bluster and Swagger", outdoor swags, or wreaths and decorative trees. Other displays include a dried material section, a collection of winter bird feeders, foliage plants such as scented geraniums and of course, everyone's favorite house plant, the African Violet.



The Rocky Mountain Succulent Society will meet in the Denver Botanic Gardens, December 11, 1973 at 7:30 p.m. in Room C. For information call Don Sweitzer, 399-2821.

BOTANY CLUB NEWS

The Botany Club will start a series of discussion meetings on Structure and Function of Plants, with the January meeting. The first meeting will be on Winter Twigs. It will be held January 18 at 7:30 in the Herbarium - Education Building.



MORE PLANTINGS!

Probably many visitors have noticed the collection of sedums planted by the Golden Rain trees near the front entrance. They include: *Sedum sexangulare*; *S. ternatum*; *S. caudicolum*; *S. middendorffianum*; *S. 'Rubyglow'*; *S. spurium* var. *album*; *S. spurium* 'Dragon's blood'; *S. stenopetalum*; *S. spurium* var. *roseum*; *S. ewersii*; *S. nevii*; *S. chrysanthum*; *S. rupestre*; *S. ewersii* var. *homophyllum*; *S. 'Sandy's Silver Crest'*; *S. brevifolium*; *S. kamtschaticum* 'Golden Carpet'; *S. opsinifolia*; *S. populifolium*; *S. stoniferum* var. *album*; *S. telephium* var. *maximum*; *S. telephium* 'Autumn Joy'.

Two varieties of *Vinca minor* 'Ms. Jekyll's White' and 'Bowles' have been planted around the aspen trees on the east side of the Library. Also *Cotoneaster divaricata* and *C. hebeophylla* and *Pyracantha* cv. *wyatt* are planted near the Library as are various kinds of yucca including *Yucca recurvifolia*, *Y. flaccida* and *Y. filamentosa* 'Golden Sword' and 'Bright Edge'.

The new garden now contains *Rhus aromatica*, *Elaeagnus angustifolia* var. *orientalis*, *Juniperus sabina* 'Broadmoor', *Pyrus calleryana*, *Syringa amurensis*, and *Crataegus ambigua*.

Finally a lovely Colorado blue spruce, *Picea pungens* has been planted near the House.

Notice From the Library

The following books are missing from the Helen Fowler Library:

Baur, Robert C. GARDENS IN GLASS CONTAINERS. N.Y., Hearthside Press, 1970.

Harrington, Harold David. WESTERN EDIBLE PLANTS Albuquerque, Univ. of New Mexico Press, 1970.

Muirhead, Desmond. PALMS. Globe, Arizona, D. S. King, 1961.

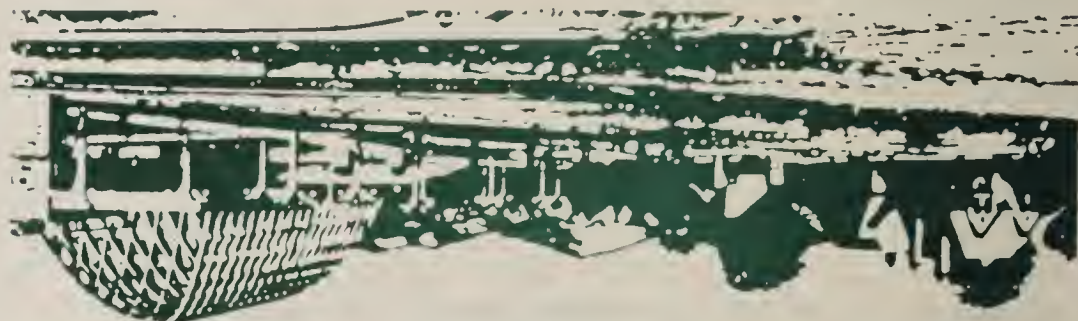
Zwinger, Ann. BEYOND THE ASPEN GROVE. N.Y., Random House, 1970.

Please note that the book drop in the gate house, East entrance on York, can be used at any time as a book return if the patron does not have time to come in or if the library is closed.

Books for the book sale are welcome. Call Mrs. Millard, 757-1046 if you wish to make donations.

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DECEMBER 1973

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CAN SPRING BE FAR BEHIND!

In late October visitors to the Gardens were interested in the sight of many volunteers busy in the outside gardens. The ladies were planting all types of minor bulbs, which had been received from the Netherlands Flower-bulb Institute as part of their testing program. Bulbs were also sent to gardens in Michigan, Illinois and California. All the gardens will be expected to keep careful records and report to the Institute on the progress of the bulbs. Those planted in Denver included: six varieties of *Allium* including *A. karataviense* (Turkestan onion), *A. caeruleum* (blue globe onion), and *A. moly* (golden garlic); four varieties of windflower including two cultivars of *Anemone blanda*, 'Radar' and 'White Splendour'; four varieties of glory of the snow including *Chionodoxa sardensis* and *C. gigantea*; eighteen varieties of crocus including 'Moonlight', 'E. P. Bowles', 'Warley White', 'Snowbunting', 'Barr Purple', 'Advance', 'Peter Pan', 'Flower Record', 'Vanguard', and 'Pickwick'; two varieties of *Ery-*

thronium 'Pagoda' and 'White Beauty'; three varieties of *Fritillaria* 'Lutea', 'Rubra Max', and 'Aurora'; two varieties of *Hyacinthus*; twelve varieties of iris, including cultivars of *Iris reticulata* 'Joyce', 'Violet Beauty', and 'Harmony' and larger growing varieties like 'Mansfield', 'Isabella', and 'Queen of the Blues'; four varieties of grape hyacinth including *Muscari* 'Blue Spike', and 'Early Giant'; six varieties of narcissus including 'February Gold', 'Peeping Tom', and 'W. P. Milner' and a *Narcissus triandus* cultivar 'Thalia'; five varieties of squill including *Scilla sibirica* cv. 'Spring Beauty' and *S. tubergeniana* and *S. campanulata* in blue, white and pink. Also included in the over 16,000 bulbs received from the Netherlands Flower-bulb Institute were *Ornithogalum* (Star of Bethlehem), *Puschkinia* (striped squill), *Ixiolirion* (Siberian bluebell), *Eranthis* (winter aconite), and *Brodiaea*.

Wasn't it a job for the volunteers to get these all in the ground and won't the flowers be a beautiful sight next spring!



Green Thumb Newsletter is published monthly by Denver Botanic Gardens, Inc., 909 York Street, Denver, Colorado 80206. The Newsletter is included as a benefit of membership in the Denver Botanic Gardens, regular membership dues being \$7.50 a year. Items for publication are welcome. The deadline for copy to the editor is 2:00 p.m. on the 10th of each month preceding publication. Editor — Margaret Sikes, 297-2547, Ext. 23.



A MEASURE OF PROGRESS

It is time once more to take the measure of another year's (1973's) efforts, and to look forward into the New Year (1974) at the outlines of things to come. What we are attempting to do might be expressed by borrowing a phrase from an old carol — "Ring out the Old, Ring in the New!" How does one measure the progress of a unique and complex organization such as the Denver Botanic Gardens? In the following we will suggest a few areas in which this may be attempted.

Construction and Development of Physical Facilities. One may look around him and see the evidence for himself. Two long-planned new greenhouses are rapidly nearing completion, permitting us to more than double our capacity for growing plants under glass (outside of the Conservatory) and to provide better growing conditions than we have had before. Adjacent to the Service Area a trim new Storage Building houses the motorized vehicles and equipment: Additional propagation beds, cold frames and a new shade house enlarge and improve our potential for growing new plants from seeds, cuttings, and seedlings.

Close to 30,000 square feet of new concrete walkways and related structures have been constructed in 1973, opening up new areas for soil preparation and subsequent permanent plantings. Lush green sod now covers the sidewalls of the Amphitheatre and the slopes of the View Mound, watered by labor-saving automatic sprinkling systems. The outlines of the exciting new Herb Garden Extension can be seen in the contours of the concrete underbase upon which the paving bricks will be laid next spring. A spanking new redwood fence encloses the Hammar Garden and gives promises of further interesting renovation which is going on there. A handsome wood bridge and fine new walkway connect the Botanic Gardens with a matching walkway in Cheesman Park. The newly acquired property north of the Education Building has been cleared, graded and is now supporting a new cover crop of rye grass.

New Permanent Plantings and Plant Acquisitions. Visible now are the new rows of trees planted along the major north-south walkway south of the entrance to the Boettcher Center. In the same general area one may see scores of new shrubs in the first winter of their existence at the Botanic Gardens. Ground cover plants have been installed in front of the Education Building, and a row of Austrian pines stretches along the walk leading toward Cheesman Park.

Not so visible now are over 3,000 tulip, daffodil, and hyacinth bulbs, and the nearly 17,000 "minor bulbs" planted as part of a long-range experiment testing their flowering capabilities in our climate. Generous cooperation by volunteers made possible the planting of this mountain of bulbs at the proper time. Several hundred varieties of day-lilies and some additional iris varieties represent new plantings in the garden this year, again with generous help from volunteers. Over three dozen water-lilies and other water plants provided spectacular flowers and foliage in various parts of the ornamental water system outdoors. Indoors new acquisitions of

anthuriums, callas, cacti and other succulents, and particularly orchids have swelled the capacities of our older greenhouses to the bursting point. Hundreds of varieties of plants, many not previously tried in Denver, are growing in the various units of our propagation facilities.

Educational and Research Programs. During the past year the variety and number of courses offered in our Educational Program has increased markedly. In many instances, courses were filled to capacity and interested persons had to be turned away. The Helen Fowler Library continues to develop in size and diversity through planned purchases and generous donations of rare and unusual books from friends. Use of the Library is steadily increasing. Two internationally known lecturers were brought to the Gardens during the year. Dr. T. T. Kozlowski, and Dr. Russell Seibert. In the Kathryn Kalmbach Herbarium, sorting and renovating of the gift collection from the University of Denver has been completed. The collection of the Mycological Society of Colorado has grown to over 6,000 carefully documented specimens, primarily from Colorado and the Rocky Mtn. region, and the research on Colorado fungi continues at a steady pace. The Children's Garden Program completed another very successful season. A new facet was added to the Educational Program in the form of an Art and Garden Tour to Japan, Taiwan and Hongkong co-sponsored by the Denver Botanic Gardens and the Denver Art Museum, with thirty enthusiastic participants in the three weeks' trip.

Long-Range Programs. Early in the year the Denver City Council passed an Ordinance authorizing the City to sign a lease for approximately 750 acres of land near Chatfield Dam on behalf of the Denver Botanic Gardens and the Dept. of Parks and Recreation. On this land the Denver Botanic Gardens will eventually establish an Arboretum and other facilities, which will play extremely important roles in horticultural research and public education. This is a first important step in a long-range project of the Gardens.

Renovation of the cabin and other facilities on the Walter S. Reed Property west of Evergreen has been implemented this fall and will continue. The cabin has been winterized and with an occupant, vandalism of the property has been eliminated. Long-range plans call for this property to become a Montane Zone Extension of the Denver Botanic Gardens.

A Look into the Future. The coming year will see significant advances in soil preparation and new plantings in the outside garden. Other projects, to mention a few, will include construction of the gazebo near the lower lake, installation of walkways in the Plains Garden and adjacent areas, continuing progress in the Herb Garden Extension and the Hammar Garden. Construction of concrete walkways and walls the placing of extensive amounts of rip-rapping on mounds, all in the southwest portion of the garden, will be initiated in 1974. Continuation of planning for the Japanese Garden will be an item receiving much attention. Renovation of portions of the Gates Garden is also on the planning list. Construction of a west entrance Gatehouse at Cheesman Park will be under-

continued next page

cont.

taken as soon as possible. It is our hope to have approximately the east half of the outside garden open to the public almost continuously during the coming season.

The City has asked the Botanic Gardens to take under consideration a request to begin charging an admission fee to the Gardens to help with both capital and operating expenses. This request is now under careful consideration by a committee of Trustees and Members of the Gardens. Plans for an intensive drive for new members are also under consideration by this committee.

To sum up, let us say we envision probably the busiest year yet in the history of the Botanic Gardens in all areas, but also one of the most exciting from the standpoint of potential progress.

To the City Officials, members of the Board of Trustees, Staff, volunteers and friends of the Denver Botanic Gardens we express our deep gratitude for their efforts in helping make 1973 a noteworthy one at the Gardens. Even more, we are counting on your continuing loyalty and your contributions in time, hard work, and financial support to help us meet the challenges of 1974.

William G. Gambill, Jr.
Director

Note: Readers should plan to read *The Annual Report for 1973* for a more complete account of the progress in the Denver Botanic Gardens, during the past year. We are aiming for a February 1, 1974 publication date for this report.

GOOD LUCK, RAGNAR!

Many volunteers have noticed that a familiar face has been missing around the Gardens. Ragnar N. Bramberg retired after over 14 years of service. (Perhaps "retired" isn't the proper word for Ragnar was back in December to help make ever-green ropes for the Christmas decorations.)

Ragnar, who was born and raised in Sweden, started gardening in Colorado in 1933; his first and last city job was with the Denver Botanic Gardens, so he has been involved with all the changes and progress throughout the years. Many of us will miss being able to call on his expertise and practical tips but especially we will miss his pleasant and helpful manner.

★ ★ ★ ★ ★ ★ ★

The Helen Fowler Library gratefully acknowledges the following donations:

The collection of over 250 books and bound periodicals donated by Mr. and Mrs. Erl H. Ellis; the funds contributed by Mrs. Gladys Cheesman Evans through the Tremont Foundation; the book presented by the Around the Seasons Garden Club in memory of Mrs. Frank McLister; the books given by the Men's Garden Club of Denver as a memorial to Mr. Jacob Schaetzel.

We also wish to thank the daughter and grand daughters of Olive Mason Gunnison for the gift of 123 picture albums of plants arranged alphabetically by botanical name.

Thanks also to the library volunteers who have shared their travel experiences by bringing back books to donate to the library.

The trial Wednesday evening opening has not been particularly successful and will be discontinued after December 19, 1973. Should more requests for this service be received, please let the librarian know and please express your preference as to which evening would be most convenient.

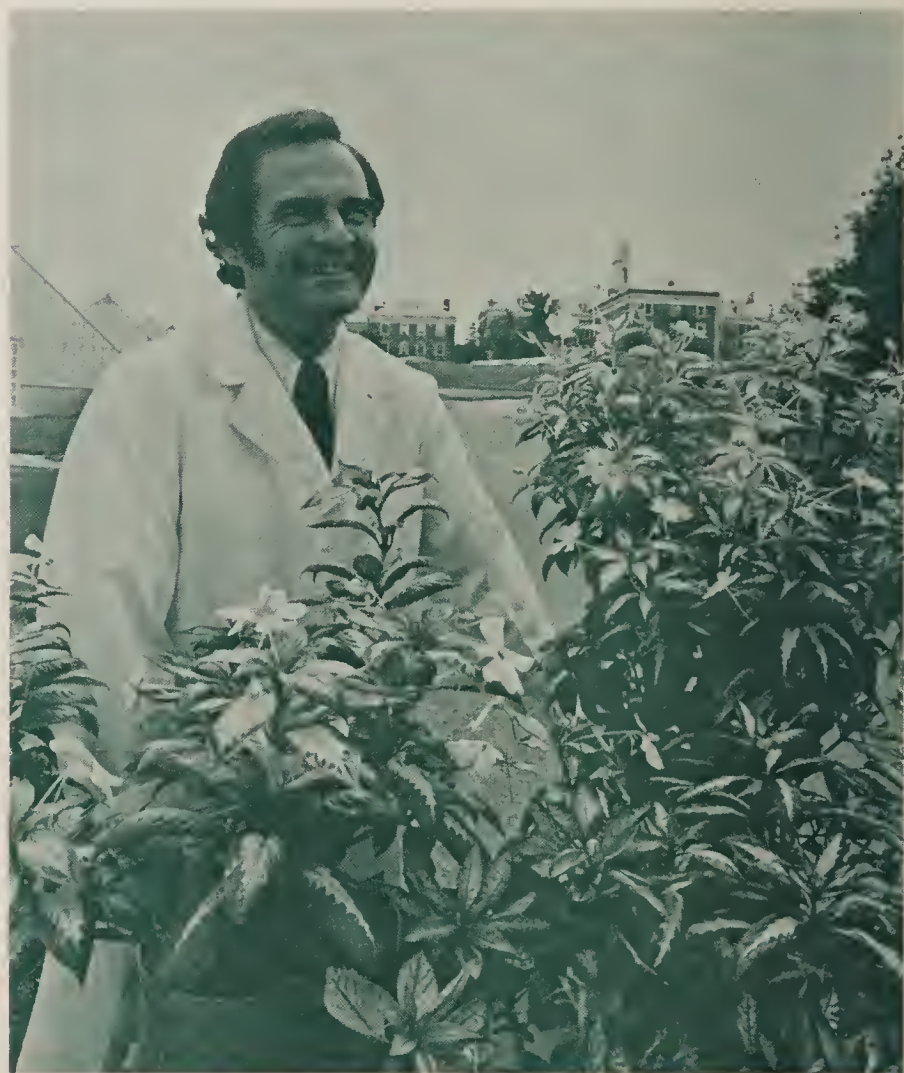
"Green is the Color of Hope" is the title of an illustrated lecture to be given at 8 p.m., January 28th by Dr. Henry M. Cathey in Horticulture Hall.

Dr. Cathey, a widely recognized scientist in the field of plant growth regulation research, is Chief of the Ornamentals Laboratory in the Agricultural Research Service's Plant Genetics and Germplasm Institute at the Agricultural Research Center — West, U.S. Department of Agriculture.

A native of North Carolina, Dr. Cathey received a B.S. degree from North Carolina State University in 1960. He received his M.S. and Ph.D. degrees from Cornell University under the direction of Dr. Kenneth Post and studied for a year in Europe as a Fulbright Scholar at the Agricultural University in Wageningen, Netherlands, before joining ARS as a research horticulturist in 1956.

Dr. Cathey is a prolific writer of Home and Garden Bulletins dealing with a wide range of topics for indoor and outdoor gardening and was on the Committee for the 1972 Yearbook of Agriculture — "Landscape for Living."

He has received a number of horticultural awards, including the Foundation for Floriculture Award in 1955 from the Society of American Florists, the Alex Laurie Award in 1955 from the American Society for Horticultural Science, and the Leonard H. Vaughan Award in 1961 and again in 1962 from the American Society for Horticultural Science. He was made a Fellow of the Society in 1972.



★ ★ ★ ★ ★ ★ ★

The following note was received with a membership renewal: "As an item of interest, and perhaps record, I have all of the issues of *"THE GREEN THUMB"* with the exception, I think, of one copy (loaned and not returned). The first issue Vol. 1, Number 1 was published in February, 1944; this means that I have been a continuous member for 30 years.

Chas. M. Drage"

(Editor's note: Mr. Drage, a contributor of articles to the magazine has recently retired from Colorado State University.)

JANUARY, 1974

[illegible]

CALENDAR OF EVENTS — JANUARY, 1974 (Continued)

19)	10:00 a.m.	Ed. Bldg. — Lecture Room “B”	Sierra Club
20)	10:00 a.m.	Ed. Bldg. — Lecture Room “B”	Sierra Club
♦ ♦ ♦ ♦ ♦ ♦ ♦ ♦ ♦ ♦ ♦ ♦ ♦ ♦ ♦ ♦ ♦ ♦ ♦ ♦			
21)	*10:00 a.m.	Botanic Gardens House — Dining Room	House Committee Meeting
21)	*10:00 a.m.	Ed. Bldg. — Horticulture Hall	Ikebana International
21)	* 1:00 p.m.	Ed. Bldg. — Lecture Room “B”	General Botany — Dr. Denham
22)	*10:00 a.m.	Ed. Bldg. — Lecture Room “B”	Dried Flower Arrangement — Mrs. Kosanke
22)	* 2:00 p.m.	Ed. Bldg. — Lecture Room “B”	Tropical Plants for Home & Garden — Mr. Bibee (Advanced)
22)	* 4:00 p.m.	Botanic Gardens House — Conference Room	Board of Trustees Meeting
22)	* 7:00 p.m.	Botanic Gardens House — Main Room	Landscape Architects Meeting
22)	* 7:00 p.m.	Ed. Bldg. — Lecture Room “B”	Floral Design Workshop — Mr. Lee Ashley
22)	7:30 p.m.	Ed. Bldg. — Lecture Room “C”	Gladiolus Society
23)	* 1:00 p.m.	Ed. Bldg. — Lecture Room “A”	Guides Class — Tropical Plants of the Conservatory
24)	* 9:00 a.m.	Botanic Gardens House — Main Room	African Violet Society of Denver
24)	* 2:00 p.m.	Ed. Bldg. — Lecture Room “B”	Tropical Plants for Home & Garden — Mr. Bibee (Advanced)
24)	* 7:00 p.m.	Ed. Bldg. — Lecture Room “B”	Floral Design Workshop — Mr. Lee Ashley
24)	7:30 p.m.	Ed. Bldg. — Lecture Room “A”	Capitol Hill United Neighborhood
24)	* 7:30 p.m.	Ed. Bldg. — Lecture Room “C”	Home Landscape Design — Mr. Knauer
24)	* 7:30 p.m.	Botanic Gardens House — Main — Dining Rooms & Kitchen	Men’s Garden Club
24)	8:00 p.m.	Ed. Bldg. — Horticulture Hall	Colorado Mountain Club — Program
25)	*10:00 a.m.	Ed. Bldg. — Horticulture Hall	Ikebana International
26)	9:00 a.m.	Ed. Bldg. — Horticulture Hall	African Violet Workshop — Mrs. Ross Lahr
♦ ♦ ♦ ♦ ♦ ♦ ♦ ♦ ♦ ♦ ♦ ♦ ♦ ♦ ♦ ♦ ♦ ♦ ♦ ♦			
28)	* 1:00 p.m.	Ed. Bldg. — Lecture Room “B”	General Botany — Dr. Denham
28)	8:00 p.m.	Ed. Bldg. — Horticulture Hall	“Green is the Color of Hope” Dr. Henry M. Cathey
29)	*10:00 a.m.	Ed. Bldg. — Lecture Room “B”	Dried Flower Arrangement — Mrs. Kosanke

JANUARY

29)	* 2:00 p.m.	Ed. Bldg. — Lecture Room “B”	Tropical Plants for Home & Garden — Mr. Bibee (Advanced)
29)	* 7:00 p.m.	Ed. Bldg. — Lecture Room “B”	Floral Design Workshop — Mr. Lee Ashley
30)	* 1:00 p.m.	Ed. Bldg. — Lecture Room “A”	Guides Class — Tropical Plants of the Conservatory
31)	* 2:00 p.m.	Ed. Bldg. — Lecture Room “B”	Tropical Plants for Home & Garden — Mr. Bibee (Advanced)
31)	* 7:00 p.m.	Ed. Bldg. — Lecture Room “B”	Floral Design Workshop — Mr. Lee Ashley
31)	* 7:30 p.m.	Ed. Bldg. — Lecture Room “C”	Home Landscape Design — Mr. Knauer

FEBRUARY

1)	*11:00 a.m.	Botanic Gardens House — Main — Dining Rooms & Kitchen	Civic Garden Club
2)	9:30 a.m.	Botanic Gardens House — Main Room	Gloxinia Gesneriad Growers

*Members or enrollees only.

CLASSES

As this January Newsletter goes to press there are still a few openings left in the classes.

Remember *GUIDING IS FUN*, January 7th at 9:30 or 10:30 a.m. Those who attended on December 12th and 17th expressed enthusiasm for the opportunity of following a guide in the Conservatory as she explained the many interesting plants to visitors. FREE

GENERAL BOTANY on Mondays from January 7th to February 25th will focus on modern taxonomic techniques as well as hybridizing, plant anatomy and plant physiology. Even if you were not able to attend first quarter, come join this session from 1 to 4 p.m. in Classroom "B". The cost is \$25.00 for members of the Denver Botanic Gardens and \$32.50 for non-members.

Mr. Ernest Bibee will teach *ADVANCED TROPICAL PLANTS FOR HOME AND GARDEN* on Tuesdays and Thursdays from January 8th to March 28th, 2 to 4 p.m., Classroom "B". This is always a popular offering and especially so in these days of "plantomania". Fee: \$12.50 for members, \$20.00 for non-members.

Mrs. Phil Hayward and the Associates are pleased to offer *TROPICAL PLANTS OF THE CONSERVATORY* on Wednesday afternoons from January 9th to April 3rd. This will be taught primarily in the Conservatory but Dr. Gambill and Dr. Zeiner will teach several classroom sessions also. The time is 1 to 3 p.m. and the fee is \$25.00, to be refunded if the student guides for a total of 40 hours.

Want to know more about proper landscape design and to see examples of good planning? *HOME LANDSCAPING* is the course for you! Join Mr. Andrew Knauer and Mr. Al Rollinger on Thursday evenings from 7:30 to 9:30 p.m., from January 17th to February 21st in Classroom "C". Two Saturday morning trips on March 2nd and 9th at 9 a.m. will provide the opportunity to tie together some of the concepts and ideas presented earlier. Please sign up by January 11th. The cost is \$10.00 for members, \$17.50 for non-members.

Those who patronized the dried plant booth at the Christmas Sale (and those who didn't but wished they had) are urged to sign up in Mrs. Kosanke's course, *DRIED FLOWER ARRANGEMENT*. Here you will learn the best way to design long lasting arrangements for your home. Fee: \$10.00 for members, \$17.50 for non-members. January 22nd to February 12th, 10 to 12 noon. Classroom "B".

The *AFRICAN VIOLET WORKSHOP* on Saturday January 26th at 9 a.m. in Horticulture Hall is planned as a participation session rather than a formal lecture. Those attending will be able to watch demonstrations of skills and then will have the opportunity "to get their fingers in the dirt". FREE.

Two additional classes to be taught at the Gardens are *FLORAL DESIGN WORKSHOP* offered by the Community College of Denver and *Environmental Education* under the auspices of the University of Colorado. The first, starting on Tuesday and Thursday evenings on January 8th at 7 p.m., in Classroom "B", is primarily designed as a vocational class to prepare students to work in the floral industry. Call Mrs. Sara Collier, 266-1881 for information.

EDUC. 406-2. *WORKSHOP IN CURRICULUM AND INSTRUCTIONAL DEVELOPMENT: ENVIRONMENTAL EDUCATION* is listed in the C.U. bulletin as "A non-technical introductory, activity-oriented workshop to acquaint teachers . . . in environmental education. Participants will develop an awareness of the nature and complexities of environmental

problems; a familiarity with interdisciplinary curriculum materials including curriculum guides, film strips, simulated games, environmental study kits, etc.; and teaching techniques in environmental education. . . . One or two Saturday field trips will be scheduled in place of evening sessions". This will run on Mondays from February 25th to April 22nd, from 6:30 to 9:30 p.m. in Classroom "A". Two hours credit will be awarded. Instructor: Charles Holtzer. For information please call Mrs. Joan Smith, 892-1117, ext. 398.

The Trustees wish to recognize the following for their gracious gifts in memory of Mrs. Frank McLister:

Mrs. George Simson, Jr.
Dr. & Mrs. Wm. M. Bane
Dr. & Mrs. Louis Martin
Miss Katharine Evans
Mr. & Mrs. Benjamin Stapleton
Mr. & Mrs. Kent M. Hutton
Mr. Fritz A. Nagel
Mr. & Mrs. Myron W. Thompson
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JANUARY 1974

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CAVALCADE OF BLOOM

As visitors know, there is always something beautiful to see at the Denver Botanic Gardens. One of the first areas to greet our guests is that of the Lobby Court. Some of the handsome displays there this past year, included in the winter months, poinsettia, coleus, cacti and succulents; in spring the area was planted with cineraria, tulips, and primroses; at Easter a beautiful display of lilies greeted the public and in May, the Garden Club of Denver provided a fine service with an educational display of suggested dry land plants for home landscapes in Colorado; this was followed by tuberous begonias and gloxinias which were replaced by members of the *Bromeliaceae*, one of the most interesting of the plant families; later in the year, *Kiku*, the month of the chrysanthemum, showed this flower appropriately displayed in a Japanese setting; and a blaze of red from the Christmas flower, the poinsettia, ended 1973.

The Board of Trustees has established a Lobby Court Memorial Fund. This fund is to be used in maintaining displays of colorful plants in flower, appropriate to the various seasons, in the entrance to the Education Building. We acknowledge with gratitude a contribution to this fund in memory of Norma Sanders.

WORRIED ABOUT GASOLINE?

Please remember that the Denver Botanic Gardens are easy to reach by bus. If you come from the south or north, the number 9 running on Josephine or York will bring you right to the door. East or west, patrons might take the 13 which runs on 12th Ave., the 6 on 7th ave., or the 14 bus on E. Colfax. Information on all the routes and schedules of the buses is available from the Volunteers on the Information/Hostess desk. We still need a few more volunteers there. If interested please call Mary Jacobson, 322-2090.

Remember to take acceptable items to the University Thrift Shop, 600 Ogden, before the week of January 7th. Your help is appreciated.

A month ago, Irene Mitchell suggested in her column in the Denver Post that membership in a specialized plant society might be a good way to develop new interests. The December issue of *Flower and Garden* has a two page listing of these organizations with addresses and costs of memberships.



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Colorado Color '74 is the theme of this year's GARDEN AND HOME SHOW which will be held at Currigan Hall, February 1 through 10, 1974. The main feature will be the internationally famous "Dancing Waters". An outstanding exhibit for the show is to be the super "energy-saving" kitchen display which is featured in the January issue of *House and Garden* magazine. The Home Builders will also highlight the winners from their Energy Conservation Award Contest at the show.

Admission: Adults — \$1.75, Children (6-12) — 75¢
Children under 6 — Free.

Hours: Fridays and Saturdays — noon to 10 p.m.,
Sundays — noon to 6 p.m. and Monday through
Thursday — 6 to 10 p.m.

* * * * *

Tired of winter — want to get away? Some interesting trips planned by the Denver Museum of Natural History may be just the thing! Two trips are planned to Baja, California. One to the *Islands of the Pacific* and *Scammon Lagoon* includes two days and nights in San Diego plus a six day cruise down the west coast of the Baja peninsula. Elephant seals, sea lions, nesting ospreys, pelicans, cormorants, and unique plant life can be seen. In Scammon Lagoon, the grey whales' domain, the group will go out in skiffs for closeup observations. This trip is scheduled for March 3rd to 12th. The second to the *Gulf of California and the Midriff Islands* includes a night in San Felipe, another in San Diego and a seven day cruise around the Midriff Islands in the northern end of the Gulf. Fin and killer whales may be viewed as well as nesting gulls and terns. Unusual desert plants are also a feature of this cruise which is scheduled from April 20th to the 29th. Both trips are guided by competent naturalists; there are on-board libraries and study collections, and each participant is provided with educational materials and a bibliography before departure.

Finally the Museum is pleased to announce an exclusive camera safari to several different territories in southern Africa: Mozambique, Botswana, Rhodesia, and the Republic of South Africa. Departure is planned for May 11, 1974.

For further information on any of these trips, please call Ms. Marty Hartmann, Curator of Education, Denver Museum of Natural History, 399-0870.

Many of our faithful readers have asked about the omission of the *Gardening Tips* and *Tree of the Month* features. Dr. Feucht is currently very busy (in fact was in the office three days in January). As soon as his schedule will permit, his articles will continue.

TYPOGRAPHICAL ERROR

Dr. Zeiner, who was featured in the last *Green Thumb* Magazine was incorrectly listed as having a PhD in Archeology. Her advanced degree was awarded in Botany.



DO YOU REMEMBER WHEN?

This picture dated February, 1966 is of the Gift Shop! It has expanded considerably since then as all visitors know.

Maybe the winter months would be a good time to catch up on reading. Are you interested in *Dye Plants* and *Dyeing*; *Bonsai*, *Special Techniques*; *Soils*; *Succulent Plants*; *Miniature Gardens*; *Rock Gardens*; *Gardening in the Shade*; *Dwarf Conifers*? The Gift Shop has a fine selection of Brooklyn Botanic Garden Handbooks covering these and other areas. These paperbacks are well illustrated with half tone and line illustrations and although published in Brooklyn, are not parochial or limited to eastern problems. In fact it is hard to find better information for home gardeners at nominal cost (\$1.50) than these authoritative, practical guides.

Another book which is a standard for this area is Harrington's *Manual of Plants of Colorado*. Dr. Harrington was Curator of the Herbarium and Professor of Botany at Colorado State University prior to his retirement. This book is known as one of the best keys for the state and an invaluable tool for identification of the flowering plants.

And finally — a unique blend of horticulture and Americana is now available in the Gift Shop. *The White House Gardens, A Historical and Pictorial Record* published by Great American Editions Ltd. is a beautiful book written by Frederick L. Kramer with commentary by Mrs. Paul Mellon. There are many color plates by Harold Steiner of flower arrangements used on various state occasions. (This is the first time an artist has been permitted to work on location in the White House.) Too, there are contemporary wood cuts from *Harpers' Weekly* and *Frank Leslie's Newspaper* which show the costumes of the day as well as designs and layouts of the various plantings in the gardens.

SPRING CLEANING?

Remember as you clean off your bookshelves that the Library Volunteers are collecting any books, periodicals and magazines for their annual book sale which is held in conjunction with the Plant Sale. They were able to donate more than eleven hundred dollars to the Helen Fowler Library last year from the proceeds of the book sale. Won't you help them increase that figure by bringing your donations to the Library. All the gardeners in the area will appreciate your generosity. If you need a pick-up, call the Library and arrangements will be made.

Our thanks to Cathy Washburne for working Wednesday evenings during October, November and December. Cathy was present very faithfully and her services are appreciated.

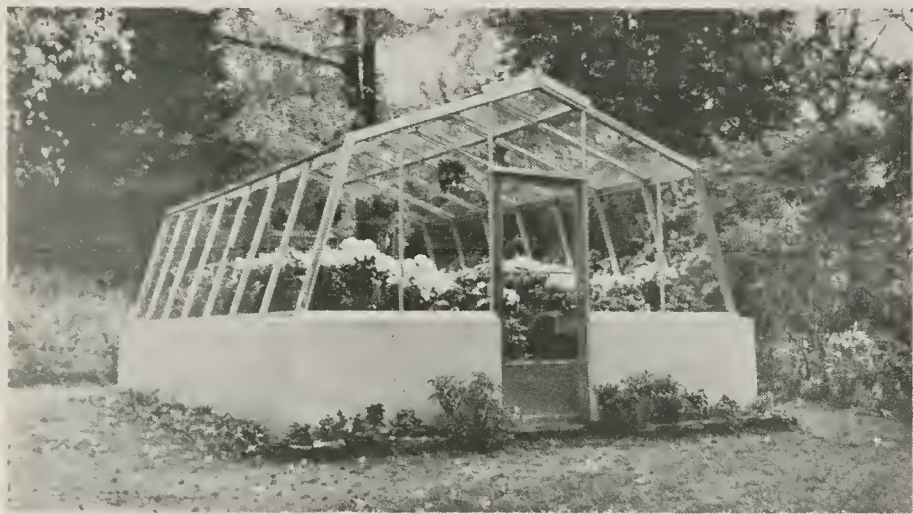


Photo courtesy Lord and Burnham.

GREENHOUSE FUEL SAVINGS

The December issue of *The Garden Journal* of the New York Botanical Gardens lists the following hints for greenhouse owners to conserve fuel and save money on heating bills:

1. Tighten up the house. Replace not only broken glass but cracked glass as well. Attach bar caps, where necessary, to the sash to prevent glass from slipping.
2. Make sure steam and hot water pipes are leak-free.
3. Use aluminum reflectorized tar paper to reflect heat back from the pipes into the greenhouse. Hang it between the pipe and the wall, leaving air space behind it, so the walls won't freeze and crack.
4. Check boiler, burner, and backup systems to be sure they are operating at peak efficiency.
5. Check, replace, or repair insulation on the boiler and all pipes leading to the greenhouse.
6. Check all automatic valves. (If you don't use automatic valves, perhaps you should. Consult a heating engineer to determine if the fuel savings will be worth the cost of installing the valves.)
7. Attach polyethylene or fiber glass insulation on the inside gable ends of the greenhouse to produce a thermopane effect. Do NOT line the roof with this material, as it could cause snow to pile up.
8. Plastic houses should have a double layer of film — it can mean savings up to forty percent.
9. Using a black cloth system at night not only reduces critical heating area, but also cuts down on radiation heat loss to the sky.
10. Thermostats need constant checking for accuracy and operation. Housing your thermostat in an "aspirated" box — designed to cause air to flow through it — means quicker response to temperature changes, thus greater efficiency of operation.

THINGS TO DO IN FEBRUARY

The Brookside Gardens of Wheaton, Maryland suggest that now is a good time to bring spring indoors. One way is to cut branches of pussy willows, apple, peach, Japanese cherry and other early flowering trees and shrubs for forcing. Lilacs may be forced but are more difficult. The following suggestions may help.

- a. Peel back about one inch of bark from the bottom of the twig.
- b. Place branches in a tall water-filled container.
- c. Spray buds with warm water, once a day, for three or four days.
- d. Temperature around 65° is best.

Also, don't forget the classes available this month at the Gardens. Come and find out! Dr. Helen Zeiner will introduce the *Grasses* to interested students. This class will focus on the botanical features of the family so be sure to bring a hand lense to see the reduced flower parts. The class is on Wednesdays from February 6 to 27, 10 A.M. to 12 noon in the Herbarium. The cost is \$10.00 for members, \$17.50 for non-members.

WHAT GRASS IS THIS?



Come on Saturday, February 16 to an illustrated explanation of *Soil and Plant Growth Relations*. Dr. James Feucht will present this at 9 A.M. in Classroom "A," FREE.

Dr. William Gambill, Director of the Denver Botanic Gardens, will show his slides of the Japan trip at the Botany Club meeting on February 15. All are welcome to come and view these interesting pictures of the many beautiful gardens that the group toured in October. The meeting will be held at 7:30 P.M. in Classroom "C".

On February 21 "Adventures with the Natives" will be the subject of a talk by Larry Watson at a meeting of the Around the Seasons Club at 909 York. Mr. Watson, owner of Western Evergreens Nursery in Golden, has specialized in collecting native flowers, shrubs, and trees for home landscaping. He will speak at 11 a.m. All interested persons welcome.

The Weekend Gardener will return starting February 2 at 1:30 p.m. on Channel 7.

RECENT ACQUISITIONS (PAMPHLETS) IN THE HELEN FOWLER LIBRARY.

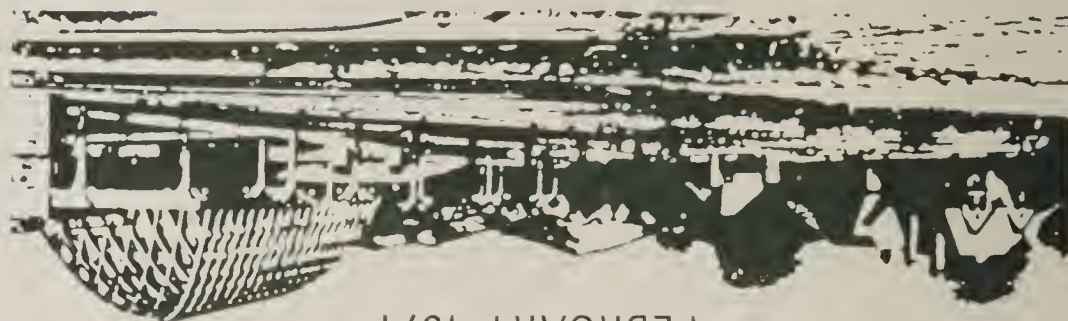
Author	Title	Date of Publication	Subject Heading
	PAINTINGS AND DRAWINGS BY FREDERICK A. WALPOLE	1973	BOTANICAL ILLUSTRATION
George, Jean Craighead	EVERGLADES WILDGUIDE.	1972	EVERGLADES NATIONAL PARK
U.S. Dept. of the Interior	NATURE DOWNTOWN	1970	POND ECOLOGY.
Lutz, J.	VENEER SPECIES THAT GROW IN THE UNITED STATES	1972	VENEERS AND VENEERING.
U.S.D.A.	GYPSY MOTH.	1970	GYPSY MOTH.
U.S.D.A.	BUILDING HOBBY GREENHOUSES.	1973	GREENHOUSES.
Hull, J. W.	THORNLESS BLACKBERRIES FOR THE HOME GARDEN	1973	BLACKBERRIES.
Wester, Horace V.	SPRAYING AND OTHER CONTROLS DISEASES AND INSECTS THAT ATTACK TREES AND SHRUBS.	1968	TREES- DISEASES AND PESTS.
U.S.D.A.	ESTABLISHING AND MANAGING YOUR APPLE ORCHARDS.	1972	APPLE.
Ford, John E.	PERFORMANCE RECORDS OF WOODY PLANTS IN THE SECREST ARBORETUM. I. HOLLY FAMILY AND BOX FAMILY, AQUIFOLIACEAE AND BUXACEAE.	1973	WOODY PLANTS.
U.S.D.A.	CAREER PROFILES IN FORESTRY, CONSERVATION ECOLOGY, ENVIRONMENTAL MANAGEMENT.	1973	VOCATIONAL GUIDANCE
Fell, Derek	A HISTORY OF ALL-AMERICA SELECTIONS.	1973	PLANT INTRODUCTION.

RECENT ACQUISITIONS (BOOKS) IN THE HELEN FOWLER LIBRARY.

Author	Title	Date of Publication
Johnson, Hugh	THE INTERNATIONAL BOOK OF TREES	1973
Faulkner, Edward H.	PLOWMAN'S FOLLY	1943
Wedge, Sonia	PLANT NAMES: COMMON & UNCOMMON	1973
Raven, Peter H.	BIOLOGY OF PLANTS	1970
	BOOKS IN PRINT, TITLES	1973
	BOOKS IN PRINT, AUTHORS	1973
Heckman, Hazel	ISLAND YEAR	1972
Guilcher, J. M.	A TREE GROWS UP.	1972
Guilcher, J. M.	A FERN IS BORN	1971
Compton, Joan	HOUSE PLANTS.	1972
Edees, E. S.	FLORA OF STAFFORDSHIRE.	1972
Moore, Stanley B.	ORNAMENTAL HORTICULTURE AS A VOCATION.	1969
Voss, Edward F.	MICHIGAN FLORA	1972
Guilcher, J. M.	THE HIDDEN LIFE OF FLOWERS.	1971
McIlvaine, Charles	ONE THOUSAND AMERICAN FUNGI.	1973
Gosling, Stanley	POCKET ENCYCLOPEDIA OF CHRYSANTHEMUMS	1971
Weaver, Robert J.	PLANT GROWTH SUBSTANCES IN AGRICULTURE.	1972
Hutchinson, J.	THE FAMILIES OF FLOWERING PLANTS.	1973
Kirk, Ruth	THE OLYMPIC RAIN FOREST.	1966
Savonius, Moira	ALL COLOR BOOK OF MUSHROOMS AND FUNGI.	1973
Weniger, Del	CACTI OF THE SOUTHWEST	
Ashton, Floyd M.	MODE OF ACTION OF HERBICIDES.	1973
Daubenmire, Rexford	PLANT COMMUNITIES	1968

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FEBRUARY 1974

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Tompkins, Peter	THE SECRET LIFE OF PLANTS	1973
Knobel, Edward	IDENTIFY TREES AND SHRUBS BY THEIR LEAVES.	1972
Purseglove, John William	TROPICAL CROPS - MONOCOTYLEDONS I.	1972
Purseglove, John William	TROPICAL CROPS - MONOCOTYLEDONS II.	1972
Swan, Lester A.	THE COMMON INSECTS OF NORTH AMERICA.	1972
Selsam, Millicent E.	VEGETABLES FROM STEMS AND LEAVES.	1972
Wilson, Helen Van Pelt	THE JOY OF GERANIUMS.	1972
Benson, Lyman	THE NATIVE CACTI OF CALIFORNIA	1969
Silverberg, Robert	VANISHING GIANTS	1969
Bold, Harold C.	THE PLANT KINGDOM. 3d ED.	1970
	TROPICAL FOREST ECOSYSTEMS IN AFRICA AND SOUTH AMERICA: A COMPARATIVE REV.	1973
Swartz, Delbert	COLLEGIATE DICTIONARY OF BOTANY	1971
Schery, Robert W.	PLANTS FOR MAN. 2d ED.	1972
Clark, Phil	A FLOWER LOVER'S GUIDE TO MEXICO	1972
Henry, LeRoy K.	AN ANNOTATED LIST OF THE VASCULAR FLORA OF BUTLER COUNTY, PA.	1971
Hargreaves, Dorothy	TROPICAL TREES FOUND IN THE CARIBBEAN	1965
Martin, Margaret J.	CACTI AND THEIR CULTIVATION.	1971
Tresselt, Alvin	THE DEAD TREE	1972
Cronquist, Arthur	INTRODUCTORY BOTANY. 2d ED.	1971



Green Thumb Newsletter is published monthly by Denver Botanic Gardens, Inc., 909 York Street, Denver, Colorado 80206. The Newsletter is included as a benefit of membership in the Denver Botanic Gardens, regular membership dues being \$7.50 a year. Items for publication are welcome. The deadline for copy to the editor is 2:00 p.m. on the 10th of each month preceding publication. Editor — Margaret Sikes, 297-2547, Ext. 23.





MARCH CLASSES (and more)

Remember the *Rose Symposium* on March 16 from 9:30 to 12:30 in Horticulture Hall. This valuable program which is sponsored by the Denver Botanic Gardens in cooperation with the Denver Rose Society, the Loveland Rose Society, the Boulder Valley Rose Society, the Arapahoe County Rose Society and the Four Corners Rose Society will cover the following items:

Introduction		Dr. William Gambill, Jr. Director, Denver Botanic Gardens
Soil Preparation	20 min.	John Maletik Soil Scientist Denver Federal Center
Location of rose bed		
Clay soils		
Sandy soils		
What and Where to buy	20 min.	Dorothy Webb Loveland Rose Society
Varieties		
Sources		
Planting	30 min.	Harlan Clark Arapahoe County Rose Society
Pruning		
Procedure		
Protection		
Coffee Break	15 min.	
Growing	20 min.	George Kelly Four Corners Rose Society
Watering		
Fertilizing		
Insects	20 min.	Herbert Gundell Denver Rose Society
Diseases		
Summary — Questions	40 min.	Ross Lahr — Moderator Casey O'Donnell Norman Page Anchormen

Also please sign up right away if you are interested in this session of *General Botany*. Here you will learn techniques of keying plants. This will meet from March 18th to May 20th, Monday afternoon from 1 to 4 p.m., Classroom B. Those who did not attend before may enter as space permits but 15 students only may enroll. The cost is \$25.00 for members, \$32.50 for non-members.

The *Plant Identification Field Trips* will provide an excellent opportunity to sharpen taxonomic skills. Dr. Brunquist will again lead these trips on the first and third Wednesday of the month, starting on March 20. Meet at 909 York at 9 a.m. promptly. As the newsletter goes to press, there is no charge but car pools will be formed and gasoline expenses shared with the driver. Bring lunch.

Have you ever seen a chayote or could you guess in which family the Kiwi fruit belongs? Join us on a cheap tour of the tropics on March 22, courtesy of King Soopers Warehouse. Only 20 people can be accommodated so get your name in by March 13. Dress warmly and wear comfortable shoes. The group will meet at 909 York at 9:30 or 10 a.m. at 3325 Denargo Market. Free.

Finally, a preview of April's classes includes *Beginning Flower Arrangement* taught by Lee Ashley. The students in the class will meet at 10 a.m. in Classroom B on the five Tuesdays of April, starting on April 2. The cost is \$10.00 for members, \$17.50 for non-members, and \$1.50 per session for flowers.

Mr. Richard Hannigan will help young gardeners with the development of their *Transplanting Techniques* on Saturday, April 6, at 9 a.m. in Classroom B. (This class will assume some gardening knowledge and experience on the part of its members.) The ages should be between 13 and 16. Limit 15, please sign up by March 28. Free.

And don't forget the first session on *Pruning* on April 6. Mr. Andrew R. Knauer, Assistant Director of the Gardens, will discuss the proper pruning of deciduous trees and shrubs at 9 a.m. in Classroom B. Free.

* * * * *

Information has been received about a class on *Living with Nature in the Winter*. It is to be taught in Estes Park by the Rocky Mountain Nature Association, Inc., on March 2nd and 3rd. The description is as follows: Living with the natural environment as experienced through building your own snow cave and enjoying its comfort and sheltering effects overnight, a treasured experience for the outdoorsman. Also included will be field studies through glaciated and non-glaciated parts of Rocky Mountain National Park along with exploration of the principles of ecology and winter plant and animal identification.

For further information, please write to:
Mr. Dwight Hamilton
Rocky Mountain Nature Association, Inc.
Estes Park, Colorado 80517

Membership Dinner

Join us at the annual membership dinner on March 6 in Horticulture Hall. Dr. T. Paul Maslin of the University of Colorado Museum in Boulder will present an illustrated account of the Art and Garden Tour of the Orient. The cost is \$6.00, social hour planned from 6 - 7 p.m. and dinner at 7 p.m. Dress informal. Please make reservations by March 1.



At the Annual Meeting of the Board of Trustees on January 26, 1974, Mrs. Anna B. Garrey was recognized for her many contributions to the Denver Botanic Gardens. Twenty members of her family joined the Board on this occasion to show their affection, gratitude and respect. One of the prime movers in the formation of the Gardens, Mrs. Garrey was honored by naming of the view mound in the new area as "Anna Garrey's Overview." This mound will have steps leading up from the west to a four foot square bench on the summit. From this vantage point, an over-all view of the outdoor gardens and the mountains will be beautifully seen.

All of Mrs. Garrey's friends will agree this tribute recognizes a marvelous lady who has always called on us to dream the larger dream and to work passionately for the future.

Also, Mr. John C. Mitchell, President of the Board, announced the election of the following new members:

Mrs. Frank B. Freyer, II
Mr. Harry Kuesel
Mrs. Theodore B. Washburne

It's that time again and we need Help!

Remember not only do we need books and magazines to be sold at the Book Sale in connection with the Plant Sale, but we also will be pleased to receive gardening implements and tools. Members who may be moving into smaller quarters may have shovels, rakes, hoes, lawnmowers (call for pick up service) etc., which they could donate. This would provide a real service to beginning gardeners who need to get started. Also remember home donation plants, clay pots, plastic baskets, etc. And finally, *we need you*. Volunteers are desperately needed to man the booths, help at cashier's desks, answer questions, and generally work everywhere in the biggest volunteer effort of the year. Save May 10th and 11th and call 297-2547 ext. 23 for further information or to volunteer.



At present two library volunteers come on different Sundays. Each works from 1 to 5 p.m. with the librarian on duty. The Library would be pleased to have two more people, each working one Sunday per month for four hours or as many hours as would be convenient. Please call S. Huggins at 297-2547 ext. 24 if you can help.

In an effort to be of service, Mrs. Huggins has announced that the Library will be open from 9 a.m. to 8:30 p.m. on Thursdays until further notice.

Floral Design Work-Shop course in Flower Shop work is set to start March 5th. This is a 10 week course by Community College taught by Lee J. Ashley. Tuesday and Thursday 7 to 9 P.M. For information call Sara Collier, 266-1881.

MARCH, 1974

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CALENDAR OF EVENTS – MARCH, 1974 (Continued)

19)	* 7:00 p.m.	Ed. Bldg. – Lecture Room “B”	Floral Design Workshop - Mr. Ashley
19)	7:00 p.m.	Ed. Bldg. – Horticulture Hall	Sierra Club
19)	7:30 p.m.	Botanic Gardens House – Main Room	Audubon Society
20)	* 1:00 p.m.	Ed. Bldg. – Lecture Room “A”	Guides'Class-Tropical Plants of the Conservatory
20)	* 7:00 p.m.	Ed. Bldg. – Lecture Room “B”	Guides Workshop
20)	7:30 p.m.	Ed. Bldg. – Lecture Room “C”	Intermediate Mycology Workshop
21)	* 9:00 a.m.	Ed. Bldg. – Lecture Room “B”	Guides Workshop
21)	* 10:00 a.m.	Botanic Gardens House – Main Room	Around The Seasons
21)	* 2:00 p.m.	Ed. Bldg. – Lecture Room “B”	Advanced-Tropical Plants for Home & Garden - Mr. Bibee
21)	* 7:00 p.m.	Ed. Bldg. – Lecture Room “B”	Floral Design Workshop
21)	* 7:00 p.m.	Botanic Gardens House – Main Room	Landscape Architects Meeting
21)	7:30 p.m.	Ed. Bldg. – Lecture Room “C”	Organic Gardening Club
22)	* 9:00 a.m.	Ed. Bldg. – Lecture Room “B”	Guides Workshop
22)	* 10:00 a.m.	Ed. Bldg. – Horticulture Hall	Ikebana International
22)	1:30 p.m.	Ed. Bldg. – Horticulture Hall	Set-up for Colorado Flower Growers Association
23)	8:00 a.m.	Ed. Bldg. – Horticulture Hall	Colorado Flower Growers Association
24)	9:00 a.m.	Ed. Bldg. – Horticulture Hall	Colorado Flower Growers Association
♦ ♦ ♦ ♦ ♦ ♦ ♦ ♦ ♦ ♦			
25)	9:00 a.m.	Ed. Bldg. – Horticulture Hall	Colorado Flower Growers Association
25)	* 1:00 p.m.	Ed. Bldg. – Lecture Room “B”	General Botany – Dr. Denham
25)	* 6:30 p.m.	Ed. Bldg. – Lecture Room “A”	Environmental Education - 406-2
26)	9:00 a.m.	Ed. Bldg. – Horticulture Hall	Colorado Flower Growers Association
26)	* 2:00 p.m.	Ed. Bldg. – Lecture Room “B”	Advanced-Tropical Plants for Home & Garden - Mr. Bibee
26)	* 4:00 p.m.	Botanic Gardens House – Conference Room	Board of Trustees Meeting
26)	* 7:00 p.m.	Ed. Bldg. – Lecture Room “B”	Floral Design Workshop - Mr. Ashley
26)	7:30 p.m.	Ed. Bldg. – Lecture Room “C”	Gladiolus Society Meeting
27)	9:00 a.m.	Ed. Bldg. – Horticulture Hall	Colorado Flower Growers Association
27)	* 1:00 p.m.	Ed. Bldg. – Lecture Room “A”	Guides Class-Tropical Plants of the Conservatory
27)	7:30 p.m.	Ed. Bldg. – Lecture Room “C”	Intermediate Mycology Workshop
28)	* 9:00 a.m.	Ed. Bldg. – Lecture Room “B” & Kitchenette	Rocky Mountain African Violet Society of Denver - Chapter 1
28)	* 10:00 a.m.	Ed. Bldg. – Horticulture Hall	Ikebana International
28)	* 12:00 Noon	Botanic Gardens – Main - Dining & Kitchen	P.E.O. Philanthropic Meeting - Herb Gundell, Speaker
28)	* 2:00 p.m.	Ed. Bldg. – Lecture Room “B”	Advanced-Tropical Plants for Home & Garden - Mr. Bibee
28)	* 7:00 p.m.	Ed. Bldg. – Lecture Room “B”	Floral Design Workshop - Mr. Ashley
28)	7:30 p.m.	Ed. Bldg. – Lecture Room “A”	Capitol Hill United Neighborhood
28)	7:30 p.m.	Botanic Gardens House - Main - Dining & Kitchen	Men’s Garden Club
28)	8:00 p.m.	Ed. Bldg. – Horticulture Hall	Colorado Mountain Club - Program
29)	* 10:00 a.m.	Ed. Bldg. – Horticulture Hall	Ikebana International
30)	9:00 a.m.	Ed. Bldg. – Horticulture Hall	Colorado Gladiolus & Dahlia Bulb Auction
♦ ♦ ♦ ♦ ♦ ♦ ♦ ♦ ♦ ♦			

Congratulations, Jim!

A well deserved honor was presented at the Conference of the Colorado Nurseryman's Association to Dr. James R. Feucht. He received the Nurseryman of the Year Award for outstanding service in horticulture. Those of us who are privileged to work with him and those who know him from his writings will all agree that the Association could not have chosen a better person for their tribute.

"BULB" AND TUBER SALE DATE SET

The Annual sale of the Colorado Gladiolus and Denver Dahlia Societies will be held at the Denver Botanic Gardens, 1005 York St. Saturday, March 30th. 10 A.M. to 4 P.M. They will have excellent tubers and corms of newer varieties of gladiolus and dahlias for you to plant.

IMPORTANT MEETING

The 38th Annual Meeting of the National Wild Life Federation will be held at the Denver Hilton from March 29th to the 31st. Especially noteworthy is a special day-long session on Saturday, March 30, which will address the question: "How Do We Achieve and Maintain Variety and Optimum Numbers of Wild Life?" The Federation, in cooperation with the International Association of Game, Fish and Conservation Commissioners and other nationally known conservation groups, is co-sponsoring this extraordinary program which will feature presentations by a distinguished and authoritative group of speakers.

Memorial gifts have been received honoring Mrs. Farrington R. Carpenter, long-time member of the Denver Botanic Gardens.

Also, a bequest has been received for "the betterment of the Rose Garden" from the Estate of Dr. John S. Bouslog.

* * * * *

Our sincere thanks to the Trustees and Officers of the Johns-Manville Corporation for a pledge of financial assistance in connection with the expansion work planned for the Denver Botanic Gardens.

At long last!

Everyone has been watching with anticipation for Volume 6 of *Wild Flowers of the United States*, which deals with the Rocky Mountain Region. It is now available in the Library. This publication of the New York Botanical Garden is a series of comprehensive books covering all the wild flowers of the U.S.; it is scientifically accurate, written in non-technical language and with many species beautifully illustrated in color. Dr. Harold W. Ricketts was appointed Senior Botanist for the task in 1963. When first planned the series was proposed in five volumes but as the magnitude of the task was realized it was expanded to Northeastern States (1 volume, 2 parts); the Southeastern (2); Texas (2); the Southwestern (3); Northwestern (2); and finally the Central Mountains and Plains (3). The area covered in the final work is North Dakota to Oklahoma on the east, Colorado, Utah and most of Nevada on the south and sections of California, Oregon, and Washington on the west to the Canadian border on the north.

Anne Ophelia Dowden continues her beautiful frontispiece drawings with this set showing the Colorado State Flower, the blue columbine. In the preface, tribute is paid to two important sources: Dr. Weber's *Rocky Mountain Flora* and Dr. Harrington's *Manual of Plants of Colorado* and George Kelly is listed as one of the photographers whose work is used.



1974 CHILDREN'S GARDEN PROGRAM

Registration for beginning gardeners will be March 18th through 29th. Children currently in 4th (or 9 years old), 5th or 6th grade are eligible. Registration forms will be mailed on request. For further information call Beverly 297-2547, ext. 6.

ATTENTION AFRICAN VIOLET LOVERS

An African Violet Sale will be held at Englewood City Hall, 3400 S. Elati Street, March 23, 1974, 10:00 a.m. 4:00 p.m.

A feature of the sale will be new African violets hybridized by one of the nation's foremost hybridizers, representing Granger Gardens, world-renowned for their African violets.

In addition to the Granger Gardens 1974 introductions, a variety of gesneriads grown by the Hi Hopes Study Club members will be available. You will find African violets galore, including many oldies and the most recent introductions. There will also be an abundance of other gesneriads such as *Episcias*, *Columnneas* and *Sinningias*.

Supplies, growing aids, and instructions for growing African violets and other gesneriads will also be offered for sale.

Circle the date now and come and share with Hi Hopes Study Club the fascinating hobby of growing African violets, the world's most popular house plant.



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MARCH

CALENDAR OF EVENTS — MARCH, 1974 (Continued)

APRIL

1)	* 1:00 p.m.	Ed. Bldg. — Lecture Room "B"	General Botany - Dr. Denham
1)	* 6:30 p.m.	Ed. Bldg. — Lecture Room "A"	Environmental Education - 406-2
2)	* 10:00 a.m.	Ed. Bldg. — Lecture Room "B"	Beginners Flower Arrangement - Mr. Ashley
2)	* 10:00 a.m.	Ed. Bldg. — Herbarium	Herbarium Committee
2)	* 1:00 p.m.	Botanic Gardens House — Dining Room	Editorial Committee
2)	* 7:00 p.m.	Ed. Bldg. — Lecture Room "B"	Floral Design Workshop - Mr. Ashley
2)	7:30 p.m.	Botanic Gardens House — Main Room	Colorado Mountain Club - Conservation
2)	7:30 p.m.	Botanic Gardens House — Dining Room	Audubon Society - Wildlife Workshop
3)	* 1:00 p.m.	Ed. Bldg. — Lecture Room "A"	Guides Class-Tropical Plants of the Conservatory
3)	7:30 p.m.	Ed. Bldg. — Lecture Room "C"	Intermediate Mycology Workshop
4)	* 11:00 a.m.	Botanic Gardens House — Dining Room & Kitchen	Civic Garden Club - Division "A"
4)	* 7:00 p.m.	Ed. Bldg. — Lecture Room "B"	Floral Design Workshop - Mr. Ashley
4)	7:45 p.m.	Ed. Bldg. — Horticulture Hall	Denver Orchid Society
5)	* 11:00 a.m.	Botanic Gardens House — Main - Dining & Kitchen	Civic Garden Club
6)	9:00 a.m.	Ed. Bldg. — Lecture Room "A"	"Pruning" - Mr. Knauer
6)	9:00 a.m.	Ed. Bldg. — Lecture Room "B"	"Transplanting Techniques for Young Gardeners" Mr. Dick Hannigan
6)	9:30 a.m.	Botanic Gardens House — Main Room	Gloxinia Gesneriad Growers

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*Members or enrollees only.



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GARDENING TIPS FOR APRIL

April is an important month for the gardener because during this month many things can be done in preparation for a show of color the rest of the season. With the first warming days of spring, this office as well as many of the Extension offices in the State begin to be flooded with telephone calls on various gardening subjects. Past experience has shown that some of the questions can be predictable because they occur annually.

Lawn Care

One of the more common questions is "Is it time to put fertilizer on the lawn?" Our answer is "no" despite the fact that fertilizers may be available and advertising indicates that they should be applied now. It is far better to wait until May or possibly June, particularly if the lawn has been given a feeding in the fall. The reason for not encouraging early lawn fertilizer application is that it tends to green the grass too soon in a naturally cool, moist period which happens also to be a favorable time for disease development. The same advice goes for watering. It is best to delay it as long as possible. At present it appears that there is sufficient moisture in the ground; there is no need for supplemental watering. This is not to say that the grass should be allowed to dry up, but there is little point in forcing the grass to grow any earlier than it needs to. After all, this merely means it needs to be mowed earlier.

What then might be done this time of year? For those eager to get into the yard, now is a good time to spade the ground and get it ready for bedding plants. Actually, it would have been better to do it in the fall, but even fall spading will tend to settle in winter and needs to be recultivated in the spring to prepare the seed or plant bed.

If there have been problems with dandelions, plantain or other weeds in the lawn, the earlier you apply control with a broad leaf weed killer the better the control will be. Dandelions should be showing up in April. As they appear, treat with weed killers containing 2-4, D.

One of the most frequent questions asked is whether or not to power rake the lawn. This is often a debatable question because it will depend on the condition of the individual lawn. If a heavy thatch (a layer of dead grass) is present and exceeds 1/2" - 3/4" thickness, power raking may be needed to allow better penetration of air and water. For those who have applied earth worm control measures in the past, thatch will tend to build up more quickly. Earth worms are an excellent control for thatch and in addition do the job of breaking down organic matter and aerating the soil. I personally encourage earth worms for the very reason that they can improve a poor soil. There has been no excessive thatch build-up in my own lawn; I don't catch the clippings; and earth worms are abundant. While this will result in some bumpiness in the lawn, the overall improvement in the soil is worth the disadvantage of lumpiness.

To answer the question about renovation: before deciding to do it, take a look at the turf. If it is in a generally healthy condition and water seems to penetrate quickly, there is no

need to do it. Often people have their lawns power raked only because their neighbors had it done or because "it seemed to be a good thing to do every spring." This is not a good reason and power raking can result in damage to the turf, particularly if it is performed too late in the season.

Pesticide Safety Precautions

With the approach of the growing season, gardeners will again be faced with the myriad of chemicals available for pest control. Caution is advised in the use of any pesticides regardless of how "safe" it might be considered. Be sure to store them in a manner not accessible to children. Before using pesticides, even if they have been used before, read the label carefully and follow directions precisely. It is surprising how much we forget from the previous season. It is also surprising how many chemicals have changed formulas without a change of brand name. Pesticides can be a valuable tool when wisely used with all due care. Unwise use can only result in serious problems.

Unmounding Roses

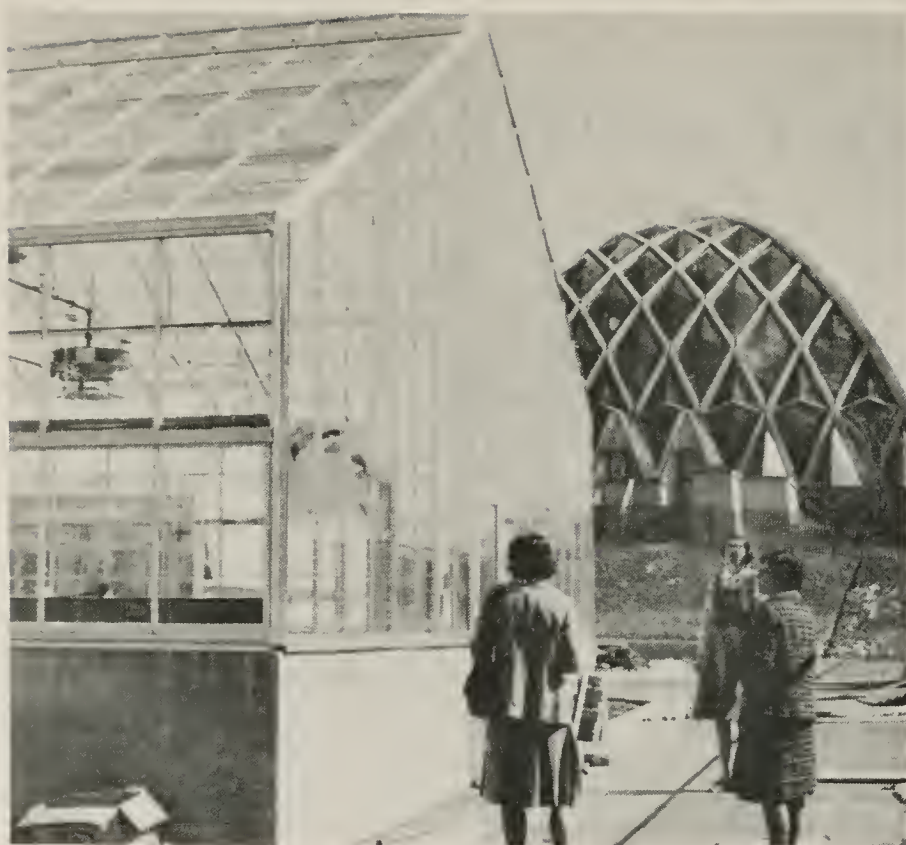
At the middle or towards the end of this month you can begin to un mound roses. This should be done gradually because sprouts may have developed within the mound. In the absence of light these sprouts do not contain green chlorophyll and when subjected to sudden bright light they will be injured. At the same time the tops can be pruned back, removing first the obvious winter-killed portions as well as interfering or weak branches. The height at which the cane is left will depend not only on how far back the canes were killed by winter cold but on what kind of plant is desired. If you are looking for large, show-type bloom, you may wish to leave short canes with only three or four buds. For taller plants that usually result in smaller but more abundant bloom, make a cut higher on the cane. In either case the cut should be made just above a bud. As a general rule the cut is made to an outside-facing bud to develop a more spreading, bushy plant. A sloping cut is usually preferred as there is less tendency to damage the top bud. To prevent cane borer, paint the wounds with a bit of clear fingernail polish.

While on the subject of roses, the question arises, "How do I treat a newly planted waxed rose?" Such plants are common on the market. Experience has shown that damage to the cane can occur as a result of the wax on the canes. Our advice is to mound the rose after pruning it back and leave the mound the entire growing season. This will prevent heat from developing underneath the wax, resulting in cane damage. Be sure to use a well-aerated (sandy) soil or a loose mulch such as ground corn cobs, wood chips or cocoa bean hulls — any material that will not tend to pack.

Arbor Day April 19

Trees are an important asset to our community and to our individual properties. In this semi-arid area of the U.S. trees are particularly important. With Dutch elm disease and recent severe storms reducing shade, the replanting of trees and

Continued on back page.



FOR MEMBERS ONLY
OPENING OF THE NEW GREENHOUSES

APRIL 20, 1974
9:30 to 11:30 a.m.

Refreshments

Guides

Please see December 1973 newsletter for further information about the greenhouses and join us for this exciting special preview for members on April 20! Public invited from 11:30 to 3:30 p.m. the same day.

HOW MANY WAYS

are there to ask people to help you to help them? Ever since our last very successful book sale at Plant Sale time we have been reminding you that we truly do need your contributions for this year's sale. We doubt that many of you know there is no budget for the acquisition of new books for the Library. The City of Denver pays for the salary of our Librarian; it pays for the operation and maintenance of the Helen Fowler Library together with the rest of the Botanic Gardens but it does not contribute to the growth of the collection. For that growth the Library is dependent upon the generosity of the Associates of the Denver Botanic Gardens and individual gifts. The Library Volunteers (20) of them contributed 3,044 hours in the Library last year and through the book sale \$1,100.00 was earned for the acquisition of new books. So you see we really need your help. If each of the approximately 2,000 members of the Gardens would bring in even one book for the sale our success would be assured. Some of you may wish to donate more than you can handle easily. If that is so, just call Solange Huggins at the Library (297-2547, Ext. 24) and she'll arrange to have your donation picked up.

Please do remember that any botanical and horticultural books are checked with the collection and if they are not already on our shelves they will be accessioned into the collection with a bookplate bearing your name as the donor.

Can we count on you?

PREVIEW OF PLANT SALE

The best selection of plants in the state is available on May 10 and 11 at the Denver Botanic Gardens. As a teaser how about this message from Betty Shaw, chairman of the Vegetable Booth!

"Are the seed catalogues spilling from the night table when you grope to shut off the morning alarm? Stretch and then bend the knees when you pick them up. It's almost time for the real thing.

My greenhouse friend sat on the potting benches with me the other day, grinning, leaning over to pick up the lists I dropped, making me promises, promises. He promised me Big Boy Tomatoes, Better Boy, Spring Giants, Yellow Jubilees, Terrifics, and pots of Pixie tomatoes, Tiny Tims and Patios for all the people who pot garden.

New and exciting is cantaloupe chaca, and summer pascal celery. My family had fun as well as success with the celery even to trenching and bleaching. Add eggplant, broccoli, cabbage, cauliflower, peppers, cucumbers to your list to be picked up at the vegetable division.

They say the trend is to vegetable gardening induced by the stay-at-home attitude of the energy crunch and the ecology syndrome. I say, "Phooie!" Spring from childhood means a vegetable garden. I'm eight again and riding the school bus home with my Italian friends to their truck-gardening settlement of Caspiana.

The school bus follows the winding Bayou Pierre to the little settlement marked on the highway by an old commissary and then drops rattley - bang! up and over the hill into the black bottom land. The patches of vegetables stretch for acres. The eggplant, tomatoes, squash spilling on to the very road where we unload.

Do you hear my New Orleans street cry? 'Buy my Tomatoes! I promise you love!' "



Our own Mrs. Garrey has written an article about the contributions the Garden Club of Denver has made and is making to the Denver Botanic Gardens. This most interesting article appeared in the January 1974 *Garden Club of America Bulletin* and is available in the Helen Fowler Library.

APRIL, 1974

1)	* 1:00 p.m.	Ed. Bldg. — Lecture Room “B”	General Botany — Dr. Denham
1)	* 1:15 p.m.	Botanic Gardens House — Dining Room	Associates Board Meeting
1)	* 6:30 p.m.	Ed. Bldg. — Lecture Room “B”	Community College
1)	* 6:30 p.m.	Ed. Bldg. — Lecture Room “A”	Environmental Education — E.D.U.C. — 406-2
2)	*10:00 a.m.	Ed. Bldg. — Herbarium	Herbarium Committee
2)	*10:00 a.m.	Ed. Bldg. — Lecture Room “A”	Hostess-Information Desk Meeting
2)	*10:00 a.m.	Ed. Bldg. — Lecture Room “B”	Beginners Flower Arrangement - Mr. Ashley
2)	* 1:00 p.m.	Botanic Gardens House - Main Room	Editorial Committee Meeting
2)	7:00 p.m.	Ed. Bldg. — Lecture Room “A”	Denver Jr. Bonsai Club
2)	* 7:00 p.m.	Ed. Bldg. — Lecture Room “B”	Floral Design Workshop
2)	7:30 p.m.	Botanic Gardens House — Main Room	Colorado Mountain Club - Conservation
2)	7:30 p.m.	Botanic Gardens House — Dining Room	Audubon Society (Wildlife Workshop)
3)	*10:00 a.m.	Ed. Bldg. — Lecture Room “B”	Children’s Garden Meeting - Supervisors
3)	* 1:00 p.m.	Botanic Gardens House — Main Room	Tea for Guides Class
3)	7:30 p.m.	Ed. Bldg. — Lecture Room “C”	Intermediate Mycology Workshop
4)	* 7:00 p.m.	Ed. Bldg. — Lecture Room “B”	Floral Design Workshop - Mr. Ashley
4)	7:30 p.m.	Ed. Bldg. — Lecture Room “A”	P.O.W.U.R. Meeting
4)	7:45 p.m.	Ed. Bldg. — Horticulture Hall	Denver Orchid Society
5)	*11:00 a.m.	Botanic Gardens House — Main - Dining Room & Kitchen	Civic Garden Club
6)	9:00 a.m.	Ed. Bldg. — Lecture Room “A”	“Pruning” - Mr. Knauer
6)	* 9:00 a.m.	Ed. Bldg. — Lecture Room “B”	“Transplanting Techniques for Young Gardeners” - Mr. Richard Hannigan
6)	9:30 a.m.	Botanic Gardens House — Main Room	Gloxinia Gesneriad Growers
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8)	* 1:00 p.m.	Ed. Bldg. — Lecture Room “B”	General Botany — Dr. Denham
8)	* 6:30 p.m.	Ed. Bldg. — Lecture Room “B”	Community College
8)	* 6:30 p.m.	Ed. Bldg. — Lecture Room “A”	Environmental Education — E.D.U.C. — 406-2
8)	7:30 p.m.	Ed. Bldg. — Lecture Room “C”	Colorado Mycological Society
8)	7:30 p.m.	Botanic Gardens House — Main Room	Wild Life Committee of the Sierra Club
9)	*10:00 a.m.	Ed. Bldg. — Lecture Room “B”	Beginners Flower Arrangement - Mr. Ashley
9)	* 4:00 p.m.	Botanic Gardens House — Dining Room	Executive Committee Meeting
9)	* 7:00 p.m.	Ed. Bldg. — Lecture Room “B”	Floral Design Workshop - Mr. Ashley
9)	7:30 p.m.	Ed. Bldg. — Lecture Room “C”	Rocky Mountain Succulent Society
10)	* 9:30 a.m.	Botanic Gardens House — Main Room	D.B.G. Guild
10)	7:30 p.m.	Ed. Bldg. — Lecture Room “C”	Intermediate Mycology Workshop
10)	* 8:00 p.m.	Botanic Gardens House — Dining Room	Landscape Industry Council
11)	* 3:30 p.m.	Botanic Gardens House — Dining Room	Development & Public Relations Meeting
11)	* 7:00 p.m.	Ed. Bldg. — Lecture Room “B”	Floral Design Workshop - Mr. Ashley
11)	7:30 p.m.	Ed. Bldg. — Lecture Room “A”	Sierra Club - Conservation Committee
11)	8:00 p.m.	Ed. Bldg. — Horticulture Hall	Colorado Mountain Club - Program
11)	8:00 p.m.	Botanic Gardens House — Main - Dining Room & Kitchen	Denver Rose Society
12)	7:30 p.m.	Botanic Gardens House — Main - Dining & Kitchen	Denver Dahlia Society
13)	2:00 p.m.	Ed. Bldg. — Horticulture Hall	African Violet Sale & Show — OPEN TO PUBLIC 2:00 - 6:00 p.m.
14)	12:00 Noon	Ed. Bldg. — Horticulture Hall	African Violet Sale & Show — OPEN TO PUBLIC 12:00 - 6:00 p.m.
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15)	* 1:00 p.m.	Ed. Bldg. — Lecture Room “B”	General Botany — Dr. Denham
15)	* 6:30 p.m.	Ed. Bldg. — Lecture Room “B”	Community College
15)	* 6:30 p.m.	Ed. Bldg. — Lecture Room “A”	Environmental Education — E.D.U.C. — 406-2
16)	*10:00 a.m.	Ed. Bldg. — Lecture Room “B”	Beginners Flower Arrangement - Mr. Ashley
16)	* 7:00 p.m.	Ed. Bldg. — Lecture Room “B”	Floral Design Workshop - Mr. Ashley

CALENDAR OF EVENTS – APRIL, 1974 (Continued)

APRIL

16)	7:00 p.m.	Ed. Bldg. – Lecture Room “A”	Denver Jr. Bonsai Club
16)	7:00 p.m.	Ed. Bldg. – Horticulture Hall	Sierra Club
16)	7:30 p.m.	Botanic Gardens House – Main Room	Audubon Society
17)	7:30 p.m.	Ed. Bldg. – Lecture Room “C”	Intermediate Mycology Workshop
18)	*10:00 a.m.	Botanic Gardens House – Main Room	Around The Seasons
18)	* 5:00 p.m.	Ed. Bldg. – Horticulture Hall	Denver Iris Society - Meeting & catered dinner
18)	* 7:00 p.m.	Ed. Bldg. – Lecture Room “B”	Floral Design Workshop - Mr. Ashley
18)	7:30 p.m.	Ed. Bldg. – Lecture Room “C”	Organic Gardening Club
19)	7:30 p.m.	Ed. Bldg. – Lecture Room “B”	Colorado Bonsai Club
19)	7:30 p.m.	Ed. Bldg. – Herbarium	Botany Club
20)	* 8:30 a.m.	Botanic Gardens House – Main Room	American Society of Landscape - Architects
20)	9:00 a.m.	Ed. Bldg. – Lecture Room “C”	“Vegetable Gardening” - Mr. Herb Gundell
20)	* 9:00 a.m.	Ed. Bldg. – Lecture Room “A”	“Vegetable Gardening for Young People” - Mr. Richard Hannigan
20)	9:30	Opening of New Greenhouses	
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22)	* 1:00 p.m.	Ed. Bldg. – Lecture Room “B”	General Botany – Dr. Denham
22)	* 2:00 p.m.	Botanic Gardens House – Main Room	Plains Conservation Committee - Board of Trustees
22)	* 3:30 p.m.	Ed. Bldg. – Horticulture Hall	Children’s Garden - Beginners
22)	* 6:30 p.m.	Ed. Bldg. – Lecture Room “B”	Community College
22)	* 6:30 p.m.	Ed. Bldg. – Lecture Room “A”	Environmental Education – E.D.U.C. – 406-2
23)	*10:00 a.m.	Ed. Bldg. – Lecture Room “B”	Beginners Flower Arrangement - Mr. Ashley
23)	* 7:00 p.m.	Ed. Bldg. – Lecture Room “B”	Floral Design Workshop - Mr. Ashley
23)	7:30 p.m.	Ed. Bldg. – Lecture Room “C”	Gladiolus Society
24)	* 3:30 p.m.	Ed. Bldg. – Horticulture Hall	Children’s Garden - Beginners
25)	* 7:00 p.m.	Ed. Bldg. – Lecture Room “B”	Floral Design Workshop - Mr. Ashley
25)	7:30 p.m.	Ed. Bldg. – Lecture Room “A”	Capitol Hill United Neighborhood
25)	7:30 p.m.	Botanic Gardens House – Main Room - Dining Room & Kitchen	Men’s Garden Club
25)	8:00 p.m.	Ed. Bldg. – Horticulture Hall	Colorado Mountain Club - Program
26)	10:00 a.m.	Ed. Bldg. – Horticulture Hall	Ikebana International
27)	* 9:00 a.m.	Ed. Bldg. – Lecture Room “A”	“Vegetable Gardening for Young People” - Mr. Richard Hannigan
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29)	* 1:00 p.m.	Ed. Bldg. – Lecture Room “B”	General Botany – Dr. Denham
29)	* 3:30 p.m.	Ed. Bldg. – Horticulture Hall	Children’s Garden - Beginners
30)	*10:00 a.m.	Ed. Bldg. – Lecture Room “B”	Beginners Flower Arrangement - Mr. Ashley
30)	* 7:00 p.m.	Ed. Bldg. – Lecture Room “B”	Floral Design Workshop - Mr. Ashley
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MAY			
1)	*11:00 a.m.	Ed. Bldg. – Lecture Room “B”	Plant Sale Committee
1)	* 3:30 p.m.	Ed. Bldg. – Horticulture Hall	Children’s Garden - Beginners
2)	9:00 a.m.	Ed. Bldg. – Lecture Room “A”	“Gardening on Your Lanai” - Mr. Richard Hannigan
2)	* 7:00 p.m.	Ed. Bldg. – Lecture Room “B”	Floral Design Workshop - Mr. Ashley
2)	7:45 p.m.	Ed. Bldg. – Horticulture Hall	Denver Orchid Society
3)	*11:00 a.m.	Botanic Gardens House – Main - Dining Rooms & Kitchen	Civic Garden Club
4)	* 8:30 a.m.	Ed. Bldg. – Lecture Room “B”	American Society of Landscape Architects
4)	9:00 a.m.	Ed. Bldg. – Lecture Room “A”	“Pruning” - Mr. Knauer
4)	9:30 a.m.	Botanic Gardens House – Main Room	Gloxinia Gesneriad Growers
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*Members or enrollees only.

Memorial gifts have been received honoring Mrs. Ben C. Essig.

Also the Board of Trustees would like to express their appreciation for gifts in memory of Mr. Herbert E. Schwan. These have been designated for the Library to purchase books on grasses, a special interest of Mr. Schwan.

Our thanks to you all.



The Denver Botanic Gardens is pleased to inform its members that the Gardens is now in possession of a bequest made by Mrs. Ruth Wallace Reed of approximately 25 acres of land in Bear Creek Canyon, above Evergreen. This land, to be known as the Walter S. Reed Botanical Garden, will become the Montane Zone Extension of the Denver Botanic Gardens.

The property, located at approximately 8,500 feet, contains meadow frontage along Bear Creek, north facing steep slopes and some areas of timber, so will display a variety of ecologically varying habitats with differing examples of plant life. There is a cabin on the property which it is hoped will serve as a nature center. During the fall months of 1973, Mr. Dan Schumann remodeled and winterized the cabin on the property, under the supervision of Roy Nilsen, Denver Botanic Gardens Carpenter. Mr. Schumann and his wife are occupying the cabin this winter and serving as caretakers. Both are much interested in preservation of the plant and animal life on the site.

The Around the Seasons Club is planning a phenological study of this area and Mrs. Velma Richards has already begun such work.

* * * * *

Please help with donations of acceptable items for University Thrift Shop, 600 Ogden. The next benefit for the Denver Botanic Gardens is the week of April 1 to 6. Please be selective in the choice of items. The hours are Monday through Friday, 9 a.m. to 4:30 p.m. and 9 to 4 p.m. on Saturday.

The Annual Membership Dinner attracted the largest crowd ever and those attending were delighted with the good company, delicious dinner and beautiful slides of Japan, Taiwan and Hong Kong. One of the traditions at this dinner has been the individual favors which Mrs. Kosanke and members of Around the Seasons and Arts and Crafts workshop design so beautifully for all of us. This year the tables were graced with Japanese dolls. Our thanks to all who worked so hard to make it the success it was.



will be presented by Rocky Mountain African Violet Council at Horticulture Hall, Denver Botanic Gardens

Saturday, April 13	2:00 p.m. to 6:00 p.m.
Sunday, April 14	12:00 noon to 6:00 p.m.

Admission free
Plant Sale

* * * * *

APRIL CLASSES

Beginning Flower Arrangement will be taught by Lee Ashley every Tuesday in April from 10 to noon in Classroom B. The cost is \$10.00 for members, \$17.50 for non-members and \$1.50 per session for flowers. This class, and many others in the Spring List, are nearing capacity so don't delay signing up!

Two sessions on *Pruning* are open to anyone that is interested. Plan on coming on April 6 and May 4, 9 a.m. Classroom A. *Please Note Room Change.*

Two classes on *Vegetable Gardening for Young People* will introduce the next generation to this lifelong hobby. April 20 and April 27 at 9 a.m. in Classroom A. Mr. Richard Hannigan will explain some of the concepts to 20 students. No charge but students must be registered by April 12. At the same time (April 20) Herb Gundell will be working with adults in *Vegetable Gardening for the Denver Area* 9 a.m. Classroom C (or Horticulture Hall depending on crowd). Free.

And a preview of May shows: *Gardening on Your Lanai* on May 2, 9 a.m. Classroom A, Free; *Bonsai for Beginners* with Mr. Fukuma on May 6 to June 10 from 7 to 8:30 p.m. \$20.00 for members and \$27.50 for non-members and *Biological Illustration* from May 7 to the 28th, 7 to 9 p.m. in Classroom B. This latter will provide an opportunity for students who wish to improve their line drawings of microscopic slides and live plants. This skill can be especially important for students in biology, botany and zoology.

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APRIL 1974

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planting in new areas should receive increased impetus. For this reason, Trees for Today and Tomorrow (TTT), in cooperation with Colorado State University Extension Service, has developed an Arbor Day Guidelines for organizations and agencies. Arbor Day this year is April 19th. Why not encourage organizations you belong to or your school system to plant a tree on that day. If not possible on that day, some time this month. For more information on Arbor Day and a copy of the Guidelines, write to James R. Feucht, 909 York, Denver 80206, or call 355-8306.

* * * * *

An appropriate gift for Arbor Day, April 19, has been received from Mr. and Mrs. Stanley S. Rudnick and Mr. and Mrs. A. E. Perlman. They have given a tree in memory of Norma P. Sanders.

"To plant a tree is to repay a little of the debt that one owes to the past." Alfred Noyes

* * * * *

REPORT ON DUTCH ELM DISEASE

In 1973 it was reported that State Forest Service crews looked at some 700,000 elm trees.

Approximately 3,600 trees showed symptoms of Dutch elm disease. Samples taken from these and others, totalling more than 4,000, were tested in the Forest Service laboratory in Fort Collins. Nearly 2,500 trees were found to have the disease.

Dutch elm disease is caused by a fungus that clogs water conducting vessels, causing the tree to wilt and die. The fungus is spread from tree to tree in Colorado mainly by the

lesser European elm bark beetle. It also may be spread by the biological union of roots (root grafts) between two trees.

Although all elms may be invaded by the fungus, Chinese elms are less susceptible than American elms.

The most obvious symptom of the disease is general wilting and yellowing of leaves on one or more branches. Another key symptom is brown streaking in the sapwood of twigs just under the bark.

Since other factors may produce symptoms similar to Dutch elm disease, the only positive method of identification is laboratory analysis.

Samples of suspected infections may be sent to the State Forest Service Insect and Disease Laboratory, Foothills Campus, Fort Collins, Colo. 80521.

Sample twigs should be about six inches long and one-half inch in diameter. Samples should be packaged in a plastic bag and labeled with the name and address of the tree owner, tree location and a description of visible symptoms.

Although Dutch elm disease has no known cure, area-wide sanitation programs can slow its spread.

Removal of diseased trees, trimming of dead and dying wood from other elms and destroying or burying elm wood will eliminate breeding sites of the lesser European elm bark beetle and indirectly slow spread of the fungus.

Seasonal applications of methoxychlor also may be used but only in conjunction with a sanitation program. Property owners are urged to consult with a commercial arborist for the proper time to spray with methoxychlor.

The State Forest Service will continue to survey for suspected cases of the disease and will assist local agencies in control measures.



Green Thumb Newsletter is published monthly by Denver Botanic Gardens, Inc., 909 York Street, Denver, Colorado 80206. The Newsletter is included as a benefit of membership in the Denver Botanic Gardens, regular membership dues being \$7.50 a year. Items for publication are welcome. The deadline for copy to the editor is 2:00 p.m. on the 10th of each month preceding publication. Editor — Margaret Sikes, 297-2547, Ext. 23.



GARDENING TIPS FOR MAY

We are now in the month that all gardeners have waited for. This is the time of year when we can renew our garden plantings and begin to see the fulfillment of our wintertime dreams. Hopefully, by now you have your soil in good enough condition to do some planting. If not, this is the first task. Nothing beats good ol' organic matter — barnyard manure, compost and the like — to fluff up your soil and improve aeration and drainage.

Getting the Lawn Ready

Now is a good time to get the lawn in shape, removing debris that accumulated during the winter and applying a fertilizer. It is much too late to power rake. The benefits of power raking, even in the dormant season, are dubious. It often does more damage to the lawn than good and should only be done where the lawn is dormant and thatch has accumulated to a thickness of three-fourths of an inch or more. I have found that earth worms control thatch very nicely and though it may result in some bumpiness in the lawn, the gumbo soil is at the same time being improved. To encourage earth worms, power raking should be eliminated or performed once every five or six years. I sometimes think that the reason people power rake is because they see the neighbors doing it. If your soil is heavy and you have had problems with water and air penetration, rather than power rake, why not put your money and efforts into a power aeration instead. This will definitely benefit your lawn and should be done prior to the first application of fertilizer.

The brand of fertilizer you use is not as important as the ratio to the fertilizer. As a general rule for lawns, a 20-10-5 analysis is suitable. You may also wish to choose one that contains iron, as this may be deficient in some turf. Weed-and-feed fertilizers, while seemingly convenient, have resulted in many problems in the past, causing death and injury to trees and shrubs in the lawn area. Avoid weed-and-feed fertilizer.

Tussock Moth Control

The devastation by tussock moth on blue spruce, douglas-fir and concolor fir is very apparent, particularly in the eastern part of Denver. Take a look on Colorado Boulevard in the area of 4th Avenue and you will see what I mean. At the request of Trees for Today and Tomorrow (TTT), the City Forester's Office conducted a survey recently which showed that more than 1400 spruce, our State Tree, were afflicted by this pest. Some are not going to be salvageable and orders have gone out from the City Forestry Office to cause their removal because these trees harbor future infestations.

Tussock moth is an insidious creature. In the first place, the moth is not the culprit; the caterpillar or larva is. The egg masses which are present all winter, not only in the trees but under the eaves of houses and in crevices here and there, will begin to hatch the latter part of this month. At this stage the caterpillar that hatches from the egg is tiny, nothing more than a little fluff of hairs. They are easily blown about

by wind. The caterpillars don't begin to feed immediately but seem to prefer to crawl to the tops of our beautiful trees. When they do begin to feed, their appetite is voracious and within a week or so the foliage in the tops of the trees is completely destroyed.

Proper timing is essential in order to obtain control. Generally, the first week in June is the most appropriate time to apply pesticides such as Malathion or Malathion-Methoxychlor combinations. Because of the numbers of larvae (over 100 per egg mass), the trees must be completely drenched, requiring about one gallon of spray material per foot of tree. For this reason it is probably better to have your trees sprayed by a professional arborist who has the equipment to reach the tops of tall trees. Spraying the tops is very important.

In order to achieve a city-wide control of this pest in hopes of stopping the increasing population and devastation of our trees, TTT, in cooperation with the Campfire Girls, will be conducting a door-to-door campaign, distributing literature on what to do and how to determine whether your trees have the pest.

If your trees have had tussock moth before or you are in an area where such trees exist, make arrangements for control measures now. Don't wait. The damage will occur sooner than you think and then it is too late. For detailed information, contact the author at 355-8306.

Dr. J. R. Feucht



The Ikebana International Denver Chapter is having its "Magnificence in May", 12th annual Japanese Flower Show, May 18 and 19, Saturday and Sunday, 10 a.m. - 5 p.m., Horticulture Hall at Denver Botanic Gardens. Mrs. Norihiko Fukuta is Chairwoman of the Show. The Lobby Court area will be designed with spring in mind and also there will be a Boutique with something for everyone. A donation of \$1.00 for the benefit of the Denver Botanic Gardens is being asked of those attending. Tickets can be purchased at the May-D.F. downtown, Botanic Gardens Gift Shop or at the door.

In Memoriam

Memorial funds have been received in honor of:

James K. Bailey
Ann Pate
Eugene Schierburg
Marillyn M. Williamson



It was long the custom on the birthday of Linnaeus for botanists to set forth on a botanical ramble. We will celebrate a little early (his birthday is May 23) but still in an appropriate fashion when Dr. Brunquist leads his *Plant Identification Field Trips* on May 1 and May 15. Meet at 909 York at 9 a.m. Free but gasoline expenses should be shared with the driver.

A special class in *Bonsai for Beginners* has been added to the spring listing. Join Mr. George Fukuma, well known master of this interesting oriental art form, as he explains pruning, styling, group planting, and the general idea of Bonsai standard. Everything will be furnished to the students for the minimum fee of \$20.00 for members and \$27.50 for non-members. His class will be offered from May 6 to June 10 (May 27 is a holiday). The time is 7 to 8:30 p.m. in Classroom B. Limit 25 students. Don't delay. Sign up immediately for this popular class!

Also there are a few openings still available in *Biological Illustration*. Dr. Janet Wingate will teach beginners to develop their skill of plant illustration through pencil sketches and ink drawing. Conservatory plants, various field specimens, and some microscopic material will be illustrated. Bring a sketch pad, pencil and eraser to the first class meeting. This class starts on May 7 and runs to May 28, from 7 to 9 p.m. Classroom B. The fee is \$10.00 for members and \$17.50 for non-members.

Don't forget *Gardening on Your Lanai* which will be held on May 2 at 9 a.m. in Classroom A. Free.

And finally remember *Pruning* of evergreens and roses on May 4 at 9 a.m. in Classroom A. Mr. Andrew Knauer, Assistant Director of the Denver Botanic Gardens, will discuss and demonstrate techniques of this important skill.

All sorts of things are planned for early June. Check the Summer List of Classes so you won't miss out.

Important Notice

Our members will be interested to know that at a recent meeting of a City Council Committee, it was decided to postpone indefinitely action on the proposed admission fee to the Denver Botanic Gardens. This will permit the outside garden to be more nearly complete before a gate charge will be made.

* * * * *

Changes in Control System of the Conservatory

When the controls were installed in the Conservatory in 1966, the thought must have been that personnel would be around the clock seven days a week. The controls were automatic to a point. That is they were automatic but someone had to first turn a knob or push a button. Since trained personnel has not been available on an around the clock basis and with the energy shortage, it has become apparent that the individual room thermostats that controlled the heat and fans were not at all satisfactory. This dictated and made imperative some changes.

We have decided that the controls need to be automated so that temperature and humidity can be controlled better. We have decided to do this in three stages:

1. Install two sensors — one on the east end of the conservatory and one on the west end.
2. Automate the ridge dampers into the system so that they open on a temperature increase.
3. Tie the humidifying cooling system into the control panel so that on a further increase in temperature it will operate automatically.

At this point a word of explanation seems to be in order about controlling temperature and humidity.

On a temperature increase, the sensors will tell the controllers to shut the heat off. On a further increase in temperature the ridge dampers will open. With still more of an increase in temperature the humidity and cooling system-side vents will come on.

On a temperature decrease the cooling and humidity system will shut down. The ridge dampers will close and finally the heat will come on. This completes the control cycle.

By installing the new sensors and controllers, we have the ability to control a pre-set temperature of say 70 degrees to within 3 degrees. We intend to run at least 12 fans to keep the air in the conservatory from stratifying and as temperature increases more fans will come on. Fans have been modified and remounted so they do not make so much noise.

Our first stage is complete and working beautifully. We are working with Honeywell on the other two stages. For this to be tied into the system entails new controls and much engineering work.

However, we will eventually have a completely automatic control system in the conservatory for heating, cooling and humidifying.

We have also installed a temperature and humidity recorder in the equipment room. This unit registers on a seven day chart all temperature and humidity changes. We can tell at a glance what has gone on in the Conservatory any time of day or night. This has been extremely helpful because before we did not know.

Jerry Lehr, Foreman, Operations and Equipment

CALENDAR OF EVENTS

MAY, 1974

MAY

1)	9:00 a.m.	Botanic Gardens House — Parking Lot	PLANT LIFE FIELD TRIP
1)	*11:00 a.m.	Ed. Bldg. — Lecture Room “B”	Plant Sale Committee
1)	*12:00 Noon	Botanic Gardens House — Dining Room	Colorado Garden Show — Meeting
1)	* 3:30 p.m.	Ed. Bldg. — Horticulture Hall	Children’s Garden — Beginners Meeting
2)	9:00 a.m.	Ed. Bldg. — Lecture Room “A”	Gardening On Your Lanai — Mr. Hannigan
2)	* 7:00 p.m.	Ed. Bldg. — Lecture Room “B”	Floral Design Workshop — Mr. Ashley
2)	7:45 p.m.	Ed. Bldg. — Horticulture Hall	Denver Orchid Society
3)	*11:00 a.m.	Botanic Gardens House — Main - Dining & Kitchen	Civic Garden Club
4)	* 8:30 a.m.	Ed. Bldg. — Lecture Room “B”	American Society of Landscape Architects
4)	9:00 a.m.	Ed. Bldg. — Lecture Room “A”	“Pruning” — Mr. Knauer
4)	9:30 a.m.	Botanic Gardens House — Main Room	Gloxinia Gesneriad Growers
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6)	* 1:00 p.m.	Ed. Bldg. — Lecture Room “B”	General Botany — Dr. Denham
6)	* 7:00 p.m.	Ed. Bldg. — Lecture Room “B”	Bonsai For Beginners — Mr. Fukuma
7)	*10:00 a.m.	Ed. Bldg. — Herbarium	Herbarium Committee
7)	* 3:30 p.m.	Ed. Bldg. — Lecture Room “C”	Children’s Garden Meeting — Advanced
7)	* 7:00 p.m.	Ed. Bldg. — Lecture Room “A”	Floral Design Workshop — Mr. Ashley
7)	* 7:00 p.m.	Ed. Bldg. — Lecture Room “B”	Science Illustration — Dr. Janet Wingate
7)	7:00 p.m.	Ed. Bldg. — Lecture Room “C”	Denver Jr. Bonsai Club
7)	7:30 p.m.	Botanic Gardens House — Main Room	Colorado Mountain Club — Conservation
7)	7:30 p.m.	Botanic Gardens House — Dining Room	Audubon Society — (Wildlife Workshop)
8)	* 8:00 p.m.	Botanic Gardens House — Dining Room	Landscape Industry Council
9)	8:00 p.m.	Botanic Gardens House — Main - Dining & Kitchen	Denver Rose Society
10)	9:30 a.m.	Ed. Bldg. - Horticulture Hall & Surrounding Area	ANNUAL PLANT SALE — OPEN TO PUBLIC 9:30 a.m. — 5:30 p.m.
10)	7:30 p.m.	Botanic Gardens House — Main - Dining & Kitchen	Denver Dahlia Society
11)	9:30 a.m.	Ed. Bldg. — Horticulture Hall & Surrounding Area	ANNUAL PLANT SALE — OPEN TO PUBLIC 9:30 a.m. — 5:30 p.m.
11)	10:00 a.m.	Botanic Gardens House — Main Room	Organic Soil & Food Association
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13)	* 1:00 p.m.	Ed. Bldg. — Lecture Room “B”	General Botany — Dr. Denham
13)	* 7:00 p.m.	Ed. Bldg. — Lecture Room “B”	Bonsai For Beginners — Mr. Fukuma
13)	7:30 p.m.	Ed. Bldg. — Lecture Room “C”	Colorado Mycology Society
13)	7:30 p.m.	Botanic Gardens House — Main Room	Wild Life Committee Of Sierra Club
14)	* 4:00 p.m.	Botanic Gardens House — Dining Room	Executive Committee
14)	* 7:00 p.m.	Ed. Bldg. — Lecture Room “A”	Floral Design Workshop — Mr. Ashley
14)	* 7:00 p.m.	Ed. Bldg. — Lecture Room “B”	Science Illustration — Dr. Janet Wingate
14)	7:30 p.m.	Ed. Bldg. — Lecture Room “C”	Rocky Mountain Succulent Society
15)	9:00 a.m.	Botanic Gardens House — Parking Lot	PLANT LIFE FIELD TRIP
16)	*10:00 a.m.	Botanic Gardens House — Main Room	Around The Seasons
16)	7:30 p.m.	Ed. Bldg. — Lecture Room “C”	Organic Gardening Club
16)	8:00 p.m.	Ed. Bldg. — Horticulture Hall	Colorado Mountain Club — Program
17)	7:30 p.m.	Ed. Bldg. — Lecture Room “B”	Colorado Bonsai Club
17)	7:30 p.m.	Ed. Bldg. — Herbarium	Botany Club
18)	* 8:30 a.m.	Botanic Gardens House — Main Room	American Society Of Landscape Architects
18)	10:00 a.m.	Ed. Bldg. — Horticulture Hall	Ikebana International Show
			OPEN TO PUBLIC — 10:00 a.m. — 5:00 p.m.
			\$1.00 donation
19)	10:00 a.m.	Ed. Bldg. — Horticulture Hall	Ikebana International Show
			OPEN TO PUBLIC — 10:00 a.m. — 5:00 p.m.
			\$1.00 donation

CALENDAR OF EVENTS – MAY, 1974 (Continued)

20)	*10:00 a.m.	Botanic Gardens House — Dining Room	House Committee Meeting
20)	* 1:00 p.m.	Ed. Bldg. — Lecture Room “B”	General Botany — Dr. Denham
20)	* 7:00 p.m.	Ed. Bldg. — Lecture Room “B”	Bonsai For Beginners — Mr. Fukuma
21)	*12:30 p.m.	Botanic Gardens House — Main Room	Rocky Mountain African Violet Council
21)	7:00 p.m.	Ed. Bldg. — Horticulture Hall	Sierra Club
21)	7:00 p.m.	Ed. Bldg. — Lecture Room “A”	Denver Jr. Bonsai Club
21)	* 7:00 p.m.	Ed. Bldg. — Lecture Room “B”	Science Illustration — Dr. Janet Wingate
21)	7:30 p.m.	Botanic Gardens House — Main Room	Audubon Society
22)	* 7:00 p.m.	Botanic Gardens House — Main Room	Landscape Architects Meeting
23)	7:30 p.m.	Ed. Bldg. — Lecture Room “B”	Capitol Hill United Neighborhood
23)	7:30 p.m.	Botanic Gardens House — Main Room	Men’s Garden Club
24)	*10:00 a.m.	Ed. Bldg. — Horticulture Hall	Ikebana International
25)	* 8:30 a.m.	Botanic Gardens House — Main Room	American Society Of Landscape Architects

28)	9:30 a.m.	Botanic Gardens House – Main Room	“We Care” Meeting
28)	* 4:00 p.m.	Botanic Gardens House – Conference Room	Board Of Trustees Meeting
28)	* 7:00 p.m.	Ed. Bldg. – Lecture Room “B”	Science Illustration – Dr. Janet Wingate
28)	7:30 p.m.	Ed. Bldg. – Lecture Room “C”	Gladiolus Society
30)	8:00 p.m.	Ed. Bldg. – Horticulture Hall	Colorado Mountain Club – Program

JUNE

1)	9:00 a.m.	Ed. Bldg. – Lecture Rooms “B” & “C”	Open Space Council – Workshop
1)	1:00 p.m.	Ed. Bldg. – Horticulture Hall	Iris Society Show
			OPEN TO PUBLIC 1:30 – 5:00 p.m.
2)	9:00 a.m.	Ed. Bldg. – Horticulture Hall	Iris Society Show
			OPEN TO PUBLIC 9:00 – 5:00 p.m.

3)	* 7:00 p.m.	Ed. Bldg. — Lecture Room “B”	Bonsai For Beginners — Mr. Fukuma
4)	9:30 a.m.	Ed. Bldg. — Lecture Room “A”	“Ground Covers” — Barbara Hyde
4)	*10:00 a.m.	Ed. Bldg. — Herbarium	Herbarium Committee
4)	* 1:00 p.m.	Botanic Gardens House — Dining Room	Editorial Committee Meeting
4)	7:00 p.m.	Ed. Bldg. — Lecture Room “B”	Denver Jr. Bonsai Club
4)	7:30 p.m.	Botanic Gardens House — Main Room	Colorado Mountain Club Conservation
4)	7:30 p.m.	Botanic Gardens House — Dining Room	Audubon Society (Wildlife Workshop)
6)	7:45 p.m.	Ed. Bldg. — Horticulture Hall	Denver Orchid Society
8)	10:00 a.m.	Ed. Bldg. — Lecture Room “B”	Organic Soil & Food Association
9)	9:00 a.m.	Ed. Bldg. — Horticulture Hall	Colorado Water Color —
			OPEN THRU JUNE 23RD

*Members or enrollees only.

1974 ANNUAL PLANT SALE

May 10 and 11

9:30 a.m. to 5:30 p.m.

In and Around 1005 York Street



The Plant Sale Co-chairmen and the twenty-five Division Chairmen have been hard at work for months making sure that this will be the best plant sale ever.

Do you need *House Plants*? We have terrarium plants, orchids, exotic succulents, ferns, cacti, carnivorous plants, and the ever popular "string-of-beads." All these and lots more plus a table manned by Dr. Zeiner to answer all those hard questions.

Also *African Violets* will be found near the House Plants. Again this year, members of the Rocky Mountain African Violet Council will provide all sorts of gesneriads from blooming plants, to fresh-cut leaves, rooted cuttings and starter plants. Come early — these always sell out fast!

How about something for the outdoor garden? Need color? *Annuals* can't be topped! There will be zinnias, petunias, and marigolds of course, and we've got 'Little Darling' (semi-dwarf) and 'Madam Butterfly' (double azalea) snap dragons. Nothing can beat the pink, white and red of 'Carefree' geraniums. They are a dwarf form which blooms early and produces quantities of flowers.

Herbs are more popular than ever this year and we've more of everything! Look for the Herb Pak containing six culinary plants — basil, thyme, rosemary, sage, marjoram, and parsley. And what about Corsican mint as a fragrant ground cover for shady places?

Children's Corner as always will feature little plants for little people at little prices. House plants are new here this year in the Young Teens Hideaway.

You must visit the *Vegetable* booth. This area has been expanded for everyone is planting a vegetable garden this year.

Inside don't forget to visit the *Gift Shop* and look over the selection of seeds. Not only will you find annuals, herbs and vegetables but also ornamental grasses and wild flowers.

The *Gift Shop Annex* has goodies galore. How about a terra-cotta ram with a green wool coat? We have hand made hanging pots and baskets. Birch bark bird houses made by Indians are available as are wall plaques by De Grazia, the well known Colorado artist. Look for animals, miners or ski figures made of Mother Lode minerals. The artist Bijon is back with us; his sculptures are truly heirlooms. Boson wall sculptures from England feature appealing animals as do the Beatrix Potter figurines. Now you can buy jig-saw puzzles of these beloved characters too. The best selection of wind chimes in the city will be at the annex as will summer hats, alabaster eggs, herb mugs, mosaic jewelry, new style watering cans, pant aprons, ghost beads and copper fountains.

Come and Join the Fun!

Finally if you'd like to help before the big event, we can use your talents. Do you have surplus plants? We can use them. Any type of growing plants, including herbs, shrubs, trees, rock garden plants or ground covers, can be sold and will be most appreciated. To help preserve your plant donations they can be placed in cans, cottage cheese containers and milk cartons (a half gallon milk carton with the side cut out makes a good container). Covering freshly dug plants with plastic, after watering and sprinkling, helps retain moisture. Please *identify* and *label* your plants when possible.

Besides plants we can use all sorts of boxes to carry them out, pots both clay and plastic, strawberry plastic baskets and gardening equipment of all kinds. Of course, we need willing workers to help everywhere. Please call 297-2547 for information about donating items and to volunteer.

* * * * *

We are very sorry to announce that Wes Woodward has resigned as editor of *The Green Thumb* magazine. Mr. Woodward, who had frequently written for the magazine prior to accepting the editorship two years ago, brought a new level of professionalism to the task. Under his direction, the publication clearly showed his dedication, training and years of experience.

His advice and counsel will be missed.



The American Iris Society — Region 20 which covers the whole state of Colorado — will sponsor an iris show at the Denver Botanic Gardens on June 1 and 2 at Horticulture Hall. The Show is open to the public from 1:30 to 5:00 p.m. on Saturday, the 1st, and it will reopen at 9:00 a.m. and continue until 5:00 p.m. on the following day.

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New acquisitions available in the Helen Fowler Library include:

AUTHOR AND TITLE	DATE OF PUBLICATION
CRUSO, THALASSA TO EVERYTHING THERE IS A SEASON	1973
COULTER, FRANCIS A MANUAL OF HOME VEGETABLE GARDENING	1973 reprint
MABE, REX E. ALMOST ORGANIC VEGETABLE GARDENING	1974
MABE, REX E. ROOFTOP AND PATIO VEGETABLE GARDENING	1974
MABE, REX E. BACKYARD VEGETABLE GARDENING	1974
WIBERG, HUGH BACKYARD VEGETABLE GARDENING	1971
MEAD, CICELY A CONCISE GUIDE TO VEGETABLE GARDENING	1966
KRAMER, JACK THE FREE EARTH GUIDE TO GARDENING	1974
O'HAGAN, FRANCIS GROWING PLANTS IS EASY AND PROFITABLE	1972

BRIDWELL, RAYMOND HYDROPONIC GARDENING	1972
THOMPSON, HOMER C. VEGETABLE CROPS	1957
OGDEN, SAMUEL R. HOW TO GROW FOOD FOR YOUR FAMILY	1973
DOTY, WALTER L. ALL ABOUT VEGETABLES	1973
BAKER, JERRY MAKE FRIENDS WITH YOUR VEGETABLE GARDEN.	1973

Information has been received from the Rocky Mountain Nature Association, Inc., about *Living with Nature in the Spring*. This class which is from May 3 - 5 is described as follows:

"Learning about man's place in the natural environment through experiencing the awakening mountain hillsides of early May. Join with others in the exploration of the principles of ecology in the out-of-doors followed by evening small group discussions on issues of human ecology and an environmental ethic. Emphasis will be placed on the three components of an experience in the natural environment: person to land, person to person and person to self relationships.

Children of junior high age and older are welcome to participate with their parents at the regular rate but the program is specifically designed for adults."

For further information, please write:

Mr. Dwight Hamilton
Rocky Mountain Nature Association, Inc.
Estes Park, Colorado 80617



Green Thumb Newsletter is published monthly by Denver Botanic Gardens, Inc., 909 York Street, Denver, Colorado 80206. The Newsletter is included as a benefit of membership in the Denver Botanic Gardens, regular membership dues being \$7.50 a year. Items for publication are welcome. The deadline for copy to the editor is 2:00 p.m. on the 10th of each month preceding publication. Editor — Margaret Sikes, 297-2547, Ext. 23.





The 1974 All-American winners have been announced: The plants are recognized as outstanding new varieties of flowers and vegetables grown from seed.

At the present time, All America Selections has 30 trial gardens devoted to testing new flower seed varieties, plus 25 trial gardens for the purpose of testing new vegetable varieties throughout the U.S., Mexico and Canada.

Entries are submitted each year from all over the world by private, commercial and governmental plant breeders. Seed is distributed to each of the trial gardens under a code number so that the judges have no knowledge of who submitted the trials. Each new entry is also grown alongside a "comparison" trial, representing the nearest equivalent existing variety. The judges score the entries according to performance in their own trial garden, and the scores are sent back to All-America headquarters. The totals are counted and the awards are announced. Only those varieties that perform well over most of the country have a chance of gaining sufficient points. A bronze medal is given for a definitely different and more desirable type; a silver medal for a truly outstanding or superior type; and a gold medal for an entry that is distinctly different and vastly superior to anything available before.

Judges are the horticultural leaders of America — including the presidents and research directors of America's leading seed companies, also directors of botanical gardens and professors of the leading universities with horticultural departments.

The winners this year are zinnia 'Scarlet Ruffles' a gold medal winner which was judged excellent for the outdoor garden and indoor flower arrangements and zinnia 'Peter Pan' an orange dwarf form. Dianthus 'Magic Charms' is the first hybrid dianthus mix ever created. Colors include crimson, scarlet, pink, salmon, white and some unique speckled borders. Cosmos 'Diablo' has a deep reddish-orange flower plus feathery foliage. Celosia 'Red Fox' won a bronze medal for its distinctive bright carmine-red plumes and clear green foliage, creating a beautiful contrast. 'Showboat' marigold also won but as all seed growers suffered a complete crop failure, no seeds will be for sale this year!

Vegetable winners were 'Table King', a bush acorn squash which gained a silver medal for the extra large size of its dark, glossy green fruits and the compact bushy habit of the plants and wax bean 'Goldcrop', a new flavorful disease-resistant plant, developed by the U.S. Department of Agriculture in cooperation with Washington State University.



Celosia Red Fox
Bronze Medal Winner



Bush Acorn Squash, Table King
Silver Medal Winner

June Classes

Many opportunities are provided for a wide variety of educational experiences in June.

Are you interested in studying trees? Come along on June 1 to see the *Trees of Boulder*. Dr. Gambill, Director of the Denver Botanic Gardens, will meet the group at 9 a.m. in front of the University of Colorado Museum. Free. Also Dr. Feucht will lead a *Tree Walk* on June 14 in Cheesman Park. Meet at 9 a.m. at 909 York. Free but limited. Sign up by June 7 for this opportunity.

Of course, Dr. Brunquist will have his popular *Plant Identification Field Trips* on June 5 and June 19. Unfortunately we have become aware of serious problems on field trips. Please remember

HELP PRESERVE OUR FLOWERS! !

This plea applies to all of us, of course, who find pleasure in our native Colorado plants. Those who attend the bi-monthly wildflower field trips are urged, specially, to look and study and appreciate to their heart's content – BUT – not to collect flowers and bring back specimens which very soon wilt and die. If collecting is being done for a scientific project, please notify the trip leader and follow his (or her) directions with respect to removing wild plants.

Our wildflower trips are designed for serious students and adults of all ages. However, small children will not benefit from these trips, and no matter how endearing they are to all of us, generally provide a distracting element. We suggest the use of baby sitters until these potential young botanists can really appreciate the trips plant-wise!.

Mrs. Barbara Hyde, Boulder County Agent, will offer a free morning session on *Ground Covers* on June 4, 9:30 a.m. Classroom A, and David Boyle, Jefferson County Agent, will teach interested participants about *Summer Lawn Care*. This too is free and is scheduled on June 15 at 9:00 a.m. Classroom A.

Two classes, never before taught at the gardens, may be of special interest this summer. *Projects for Young Naturalists* is designed to be of help for teachers or mothers of young children. Mrs. Vila has many suggestions of suitable projects to develop an interest in science. For example, she plans to demonstrate general care of plants, germination of seeds, and how to make seed jewelry and pictures. The cost will be \$9.00 for members (\$6.00 plus \$3.00 for materials) and \$16.50 for non-members (\$13.50 plus \$3.00 for materials). The class will meet on June 10, 12, and 14 from 1 to 3:30 p.m., Classroom B.

Mr. Richard Hannigan will provide fun for all in *Flower Arrangement for Young People*. This class, June 24 through June 28 will be taught from 9:30 a.m. to noon in Classroom B. Fifteen students, ages 14 to 18, will learn how to make attractive arrangements, corsages, and nosegays. The cost is \$13.50 per student (\$6.00 plus \$1.50 per session for flowers).

Again this summer the University of Colorado will offer Educ. 406-2 Workshop in Curriculum and Institutional Development: Environmental Education, at the Denver Botanic Gardens. This workshop is scheduled for the week of July 22, Monday through Friday, 9 a.m. to 1 p.m. For further information, call 892-1117, ext. 286.



“LITTORAL”
Watercolor by Lula Hansen.

* * * * *

The Colorado Watercolor Society will hold its annual all water media show at the Denver Botanic Gardens from Sunday, June 9, through Friday, June 21. Exhibit hours will be 10 a.m. to 4 p.m. daily.

This year marks the 20th anniversary of the Society which was organized in 1954 by a group of artists for the purpose of promoting fine art in all media but with special emphasis on watercolor. Twenty of the forty-nine charter members are still active in the Society. The group was an outgrowth of classes conducted by Walt Green, a well-known artist and teacher who is an honorary member of the Society and now resides in Jensen Beach, Florida. The present membership is fifty-five and all are actively engaged in painting.

This will be the third all water media exhibit to be held at the Botanic Gardens. The show will be juried by Richard Shaffer, Art Education Coordinator for the Aurora Public Schools and President of the Colorado Education Association. Members are allowed to enter three paintings each and the show is usually composed of fifty framed paintings.

* * * * *

The Denver Bonsai Club will present its Nineteenth Annual Exhibit at Denver Botanic Gardens, June 22 and 23 from 10 a.m. to 5 p.m. Highlighting the display of over 100 miniature trees will be two Bonsai demonstrations each day at 11 a.m. and 2 p.m. by George Fukuma and assisting club members. The trees used in this demonstration will be given away in a drawing following each program. The public is cordially invited to attend.

CALENDAR OF EVENTS

JUNE, 1974

JUNE

		In front of C. U. Museum	"Trees of Boulder" – Dr. Gambill
1)	9:00 a.m.		
1)	1:30 p.m.	Ed. Bldg. - Horticulture Hall	Iris Society Show – OPEN TO PUBLIC 1:30 - 5:00 p.m.
2)	9:00 a.m.	Ed. Bldg. - Horticulture Hall	Iris Society show – OPEN TO PUBLIC 9:00 - 5:00 p.m.
3)	* 7:00 p.m.	Ed. Bldg. - Lecture Room "B"	Bonsai for Beginners - Mr. Fukuma
4)	9:30 a.m.	Ed. Bldg. - Lecture Room "A"	"Ground Covers" - Barbara Hyde
4)	*10:00 a.m.	Ed. Bldg. - Herbarium	Herbarium Committee
4)	* 1:00 p.m.	Botanic Gardens House	Editorial Committee Meeting
4)	7:00 p.m.	Ed. Bldg. - Lecture Room "B"	Denver Jr. Bonsai Club
4)	7:30 p.m.	Botanic Gardens House - Main Room	Colorado Mountain Club - Conservation
4)	7:30 p.m.	Botanic Gardens House - Dining Room	Audubon Society - (Wildlife Workshop)
5)	9:00 a.m.	Botanic Gardens Parking Lot	Plant Identification Field Trip
6)	* 3:30 p.m.	Botanic Gardens House - Dining Room	Development and Public Relations Meeting
6)	7:45 p.m.	Ed. Bldg. - Horticulture Hall	Denver Orchid Society
8)	* 9:00 a.m.	Ed. Bldg. - Lecture Room "A"	Open Space Council - Workshop
8)	10:00 a.m.	Ed. Bldg. - Lecture Room "B"	Organic Soil & Food Association
9)	9:00 a.m.	Ed. Bldg. - Horticulture Hall	Colorado Water Color - OPEN THRU JUNE 21 ♦ ♦ ♦ ♦ ♦ ♦ ♦ ♦ ♦ ♦ ♦
10)	1:30 p.m.	Ed. Bldg. - Lecture Room "B"	"Projects for Young Naturalists" - Gail Vila
10)	* 7:00 p.m.	Ed. Bldg. - Lecture Room "B"	Bonsai for Beginners - Mr. Fukuma
10)	7:30 p.m.	Ed. Bldg. - Lecture Room "C"	Colorado Mycological Society
10)	7:30 p.m.	Botanic Gardens House - Main Room	Sierra Club - (Wildlife Committee)
11)	* 4:00 p.m.	Botanic Gardens House - Dining Room	Executive Committee
12)	1:30 p.m.	Ed. Bldg. - Lecture Room "B"	"Projects for Young Naturalists" - Gail Vila
12)	* 7:30 p.m.	Botanic Gardens House - Dining Room	Landscape Industry Council
13)	7:30 p.m.	Ed. Bldg. - Lecture Room "A"	Sierra Club - (Conservation Committee)
13)	8:00 p.m.	Ed. Bldg. - Horticulture Hall	Colorado Mountain Club - Program
13)	8:00 p.m.	Botanic Gardens House - Main - Dining & Kitchen	Denver Rose Society
14)	9:00 a.m.	Botanic Gardens Parking Lot	Tree Walk, Cheesman Park
14)	1:30 p.m.	Ed. Bldg. - Lecture Room "B"	"Projects for Young Naturalists" - Gail Vila
14)	7:30 p.m.	Botanic Gardens House - Main - Dining & Kitchen	Denver Dahlia Society
15)	9:00 a.m.	Ed. Bldg. - Lecture Room "A"	"Lawn Care" - Dave Boyle ♦ ♦ ♦ ♦ ♦ ♦ ♦ ♦ ♦ ♦ ♦
18)	7:00 p.m.	Ed. Bldg. - Horticulture Hall	Sierra Club
18)	7:00 p.m.	Ed. Bldg. - Lecture Room "A"	Learning for Living
18)	7:30 p.m.	Botanic Gardens House - Main Room	Audubon Society
19)	9:00 a.m.	Botanic Gardens Parking Lot	Plant Identification Field Trip
20)	7:30 p.m.	Ed. Bldg. - Lecture Room "C"	Organic Gardening Club
21)	7:30 p.m.	Ed. Bldg. - Lecture Room "B"	Colorado Bonsai Club
21)	7:30 p.m.	Ed. Bldg. - Herbarium	Botany Club
22)	10:00 a.m.	Ed. Bldg. - Horticulture Hall	Jr. Bonsai Show - Open to Public 10:00 a.m. - 5:00 p.m.
23)	10:00 a.m.	Ed. Bldg. - Horticulture Hall	Jr. Bonsai Show - Open to Public 10:00 a.m. - 5:00 p.m. ♦ ♦ ♦ ♦ ♦ ♦ ♦ ♦ ♦ ♦ ♦
24)	* 9:30 a.m.	Ed. Bldg. - Lecture Room "B"	"Flower Arrangement for Children" - Mr. Hannigan
25)	7:00 p.m.	Ed. Bldg. - Lecture Room "A"	Learning for Living

CALENDAR OF EVENTS — JUNE, 1974 (Continued)

25)	7:30 p.m.	Ed. Bldg. - Lecture Room "C"	Gladiolus Society
26)	*10:00 a.m.	Ed. Bldg. - Horticulture Hall	Children's Garden Meeting
26)	*11:00 a.m.	Botanic Gardens House - Main - Dining & Kitchen	Sunbonnet Garden Club
27)	*11:00 a.m.	Botanic Gardens House - Dining Room	African Violet Council of Denver (Tour & lunch)
27)	7:30 p.m.	Botanic Gardens House - Main - Dining & Kitchen	Men's Garden Club
27)	7:30 p.m.	Ed. Bldg. - Lecture Room "B"	Capitol Hill United Neighborhood
27)	8:00 p.m.	Ed. Bldg. - Horticulture Hall	Colorado Mountain Club - Program

JULY

2)	*10:00 a.m.	Ed. Bldg. - Herbarium	Herbarium Committee
2)	* 1:00 p.m.	Botanic Gardens House - Dining Room	Editorial Committee
2)	7:00 p.m.	Ed. Bldg. - Lecture Room "A"	Learning for Living
2)	7:00 p.m.	Ed. Bldg. - Lecture Room "B"	Denver Jr. Bonsai Club
2)	7:30 p.m.	Botanic Gardens House - Main Room	Colorado Mountain Club
2)	7:30 p.m.	Botanic Gardens House - Dining Room	Audubon Society

*Members or enrollees only.

an old fashioned



to everyone who helped make this the best Plant Sale ever.

Introducing:

Dr. C. Eugene Osborne will serve as editor of *The Green Thumb* magazine starting this summer. Dr. Osborne, who is on the faculty at Colorado Women's College, has wide experience in English with a background that embraces such diverse areas as teaching Freshman English at Michigan State University and teaching writing research to graduate students. His Ph.D. is from the University of Denver and emphasizes the analysis of dramatic literature.

He will be assisted by Dr. Janet Wingate, who will serve as Technical Reader. We are indeed fortunate to have Dr. Wingate at the Denver Botanic Gardens, for she is extremely pleasant, competent and efficient – a delight to work with. Her degree is from the University of Oklahoma in Botany with emphasis on morphology.

Ken Hostetler, of the State Forest Service, is now working out of Dr. Feucht's office at 909 York. Ken, a graduate of Colorado State University, is in Community Forestry. Currently he is working in the Denver area and surrounding counties on the problems of Dutch elm disease. He also is doing subdivision reviews and is helping mountain communities with surveys on mountain pine beetles. We are very glad to have a man of his caliber and training working with us.

DON'T DELAY ON
CONTROL MEASURES FOR
TUSSOCK MOTHS.

At a recent Guides Committee meeting the following schedule of summer tours was accepted: Every Tuesday from 10 to 12 noon a guide will be available for unscheduled tours of the Conservatory; Thursday from 1 to 3 p.m. there will also be a guide on duty. The Information Desk is also manned every day of the week from 10:30 to 2:30 p.m. There are a few openings for this volunteer service. For information please call Ms. Mary Jacobson, 322-2090.

We all mourn the passing of G. E. O'Donnell on April 24, 1974, after a long illness. Casey, as he was known to everyone, was an ardent rose and peony grower. Many visited his garden at Lafayette, Colorado, each spring and summer to view his botanical handiwork.

Casey, a long time member of the Denver Botanic Gardens, was past president of the Denver Rose Society, the Boulder Valley Rose Society and served six years as a Director of the American Rose Society. He was an accredited rose judge and was currently serving as judge of the All-American rose test garden located at the Denver Botanic Gardens.

Casey will be sorely missed, not only for his expertise in rose and peony growing, but also for his ready wit and bountiful knowledge of horticulture which he so joyously shared.

—Ross Lahr

As of May 31, the Denver Botanic Gardens will lose the services of Dave Lankhorst because of mandatory retirement. Dave, a native of the Netherlands, went to Indonesia as a young man and worked for 25 years in the tropics. In 1966 he accepted the position of Gardener-Florist in the conservatory. Since then he has become well known to many visitors because of his helpful manner and fund of information. His plans for the future include tutoring languages (French, German, Dutch and Indonesian), consulting on care of house plants and fishing. Since it is very difficult to find people with his knowledge and expertise, all of us are delighted to know his plans also include serving as a volunteer guide in the Conservatory.

Tom McDuffie will be replacing Dave on a temporary basis with many of the same areas of responsibility.

* * * * *

Members will be pleased to learn that Emma Lahr, who directed the Denver Botanic Gardens African Violet Symposium in winter, was recognized at the National Convention of the African Violet Society of America, Inc. Mrs. Lahr was awarded the Amy Lackner award; this is given to the person, club or council that is responsible for securing the most new members in the past year to AVSA. She also won the Ruth Carey Award for affiliate chapter leadership because of her work of organizing four new clubs in the Denver area.

* * * * *

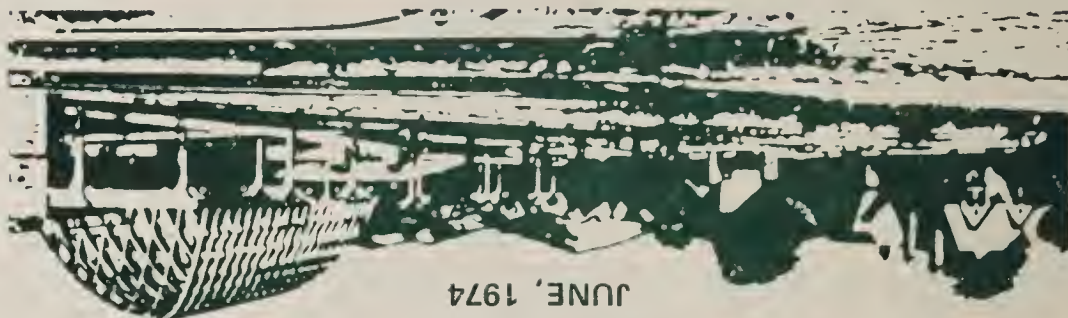
Cassidy Hicks Wallpaper Company has generously donated 50 plastic buckets to the Childrens' Garden program. Our thanks to them.

* * * * *

An unusual tour opportunity is being offered this year by the American Horticultural Society. They will sponsor a fall trip to South Africa (the season for the peak of spring bloom there). Harold Epstein will conduct the tour. For further information, write for "An Exploration of South Africa," American Horticulture Society, Mt. Vernon, Va. 22121.

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A list of some Seminars in Rocky Mountain National Park for the summer of 1974 includes:

ROCKY MOUNTAIN ECOSYSTEMS

Dr. Richard G. Beidleman

June 10-15

An ecological survey of the ecosystems that occur in RMNP and its environs will be made by means of group and individual field investigations. Considerations will be made of ecological concepts which have appeared on the Rocky Mountain scene as well as in the biosphere at large. The course will include lectures, field trips and individual and group research projects. Limited to 20 participants.

BIRD ECOLOGY

Dr. Gustav A. Swanson

June 24-29

This course is an introduction to Rocky Mountain birds with emphasis upon identification, songs, ecology and behavior. The birds will be studied in their natural habitat at elevations ranging from 5,500-12,000 feet. Limited to 20 participants.

MOUNTAIN ECOLOGY

Dr. Moras L. Shubert

July 8-13

The unique features of mountain ecosystems will be investigated to learn how altitude, slope and substrate govern the various communities from alpine timberline down to the plains "timberline." Daily field trips will provide the opportunity to analyze many kinds of communities and learn how their microenvironments vary from one to the other. The participants will meet at 8 a.m. at Shadow Mountain Village, two miles west of Grand Lake Village on

highway 34. Field study will take place on the western side of RMNP. Limited to 20 participants.

PLANT IDENTIFICATION

Dr. Miriam L. Denham

July 15-20

The fundamentals of taxonomy and use of appropriate keys in identification of montane, subalpine and alpine tundra plants will be explored. Students will learn taxonomic terminology and the concepts of species, genera and families. The class will be divided into small groups, each group working on plant identification with close instructor supervision. The major dicot families will be explored along with montane meadow, subalpine forest, valley, pond, and krummholz areas. Limited to 25 participants.

ALPINE-TUNDRA ECOLOGY

Dr. John W. Marr

July 22-27

Field studies will concentrate on the ten square miles of tundra on Trail Ridge accessible by car. Orientation on regional features of geology, climate and biology will be followed by intensive study of local ecological units which make up the regional landscape mosaic. Generally mornings will be spent in the field while afternoons and some evenings will involve discussions and lectures. Each participant will spend at least one day on an individual project which may be reported both orally and in writing. Grades will be based on the written report. Limited to 20 participants.

For further information about fees, registration and college credit, contact:

Mr. Dwight Hamilton

Rocky Mountain Nature Association, Inc.
Estes Park, Colorado 80517



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GARDENING TIPS FOR JULY

An extremely dry May and a caterpillar-ridden June has left its toll in our gardens. To help your trees and shrubs recover from defoliation caused by feeding of caterpillars, give them a feeding using either a deep root method or a foliar feeding with a totally soluble fertilizer designed for that purpose. Several types are available such as Ra-Pid-Gro, Stern's and Morgro Liquid. Be sure to dilute according to directions for foliar feeding. Too much can cause injury; too little does not do an adequate job. A foliar feeding, of course, can only be done when there is sufficient foliage on the plant to absorb it. I have seen some trees and shrubs so badly defoliated this year that root feeding is the only possible method. The idea is to help boost the nutrition of the plant early enough in the season so that it can develop some growth to carry it into the winter months. Most defoliated trees and shrubs will have a surprising recovery with the possible exception of spruce attacked by tussock moth. Unfortunately, evergreens do not replace lost foliage very rapidly.

If the top of your spruce tree was lost this year from tussock moth damage, do not prune it out. Frequently, the plant has a chance to set new buds which will produce foliage for next year.

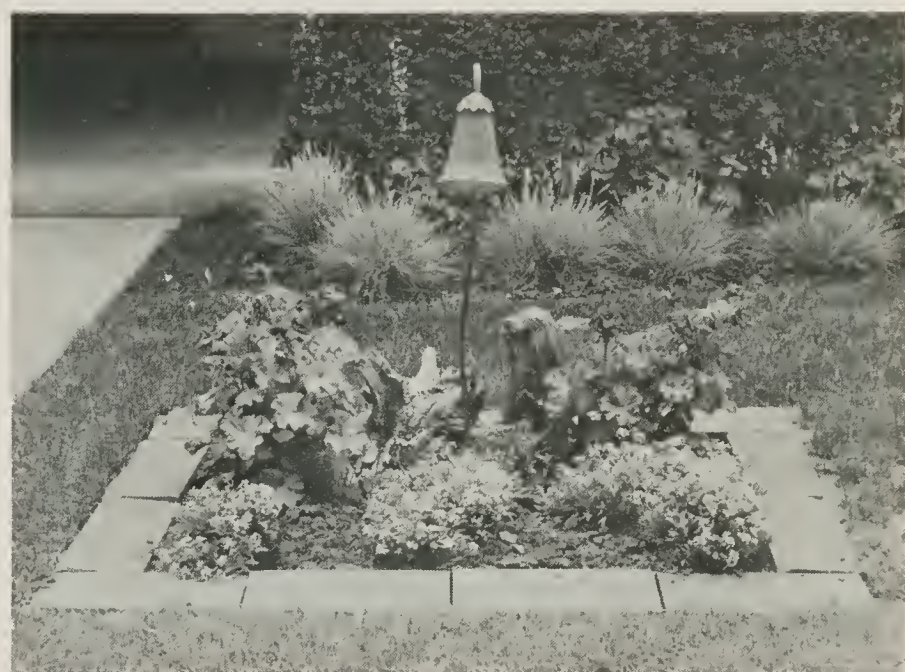
This is the month to look out for infestations of spider mites. In fact, the warm-up in May resulted in early infestations of mites. An easy way to look for them is to hold a piece of white paper beneath a branch and vigorously shake the branch over the paper. If mites are present you will be able to see them crawling on the paper. Presence of numerous webs is also a sign of mites. They will also leave a salt-and-pepper or stippled pattern on the leaves caused by their feeding. Mites can be controlled by the use of Kelthane or Chlorobenzilate.

If you plan to be away for a vacation this month be sure to include your yard in the planning. Get rid of all the pesky weeds ahead of time and take care of the major insect control problems before leaving. It is best not to ask a youngster to do these chores. If you have someone taking care of the lawn make sure to leave instructions on the watering with particular attention to areas that need spot watering because of peculiar soil problems. Lawn mowing is very important. If possible, have the person use your own mower, adjusted to the proper height of cut. A lawn can be very badly damaged by a lawn mower set too low or not properly sharpened. Be sure to point out all the hazards to be looked out for such as sprinkler heads and high spots.

Vegetable gardens are popular this year. This has already led to many problems of insect and disease control. You can begin to look for signs of the tomato horn worm and take appropriate action when they are visible. Sevin does a good job in controlling them but if you have only a few plants you can pick the worms off by hand. It will also control the Mexican bean beetle, potato beetle and most other foliar-feeding insects in your vegetable garden. It will not, however, give good control on leaf miner in spinach and chard. Malathion and Diazinon give reasonably good control.

If you use Diazinon be sure to allow for the 14 day waiting period before harvesting. The use of the wrong pesticide in vegetable crops renders them useless. Most systemic insecticides cannot be used on vegetables. Chlordane is restricted to specific vegetable crops. It is not a general purpose insecticide. Isotox and similar formulated insecticides, while designed for general purpose on trees and shrubs, may not be suitable for edible crops. Be sure to check the label before using. If not indicated for edible crops don't use it for that purpose.

Dr. J. R. Feucht



Terrace and Garden Tour

Once again the annual Terrace and Garden Tour will be sponsored by the Denver Botanic Gardens Guild. The tour will be on Wednesday, July 24 from 10:00 a.m. to 6:00 p.m.

The gardens chosen for visiting are of particular interest this year because of the variety, size, design and usage of plant material.

Tickets for the tour are \$5.00 and are available at the Gift Shop, at each garden on the day of the tour and from members of the Guild. Refreshments will be served. See you there!

The Denver Botanic Gardens lost a valued friend with the death of Mrs. Gladys Evans. Born in Denver in 1887, Mrs. Evans was the only child of Mr. and Mrs. Walter S. Cheesman, pioneer leaders in Denver and Colorado. She was married to John Evans, Denver banker and business man in 1908. Mrs. Evans was one of the founders and a longtime president of the Colorado Forestry and Horticulture Association, the forerunner of the Denver Botanic Gardens. She also served as first president of the Board of Trustees of the Denver Botanic Gardens.

We are very grateful for the Evans Family's designation of the Denver Botanic Gardens for a memorial to Mrs. Evans.

IMPORTANT NOTICE

The Board of Trustees has announced a change in the membership dues starting **August 1, 1974**. The classes of membership will be as follows:

Junior Membership (Age 15 and under)\$ 3.00
Student Membership (High School, College) 5.00
Regular Membership 10.00
Participating Membership 30.00
Contributing Membership 50.00
Supporting Membership 100.00
Corporation Membership 200.00
Patron Membership 500.00
Life Membership (Single contribution) 1,000.00

Of course, as before, all dues and contributions are deductible from Federal Income Tax.

This step is taken with reluctance, but as we all know, the costs of goods and services have been rising. At the present time the regular membership of \$7.50 covers the costs of the publications only.

The benefits currently include:

1. Twelve issues of the Green Thumb Newsletter, one each month of the year, with monthly gardening tips for the Denver area, and the complete monthly program of the Denver Botanic Gardens.
2. Four issues of The Green Thumb magazine, issued quarterly, with a wide variety of highly readable articles of lasting interest to plant lovers in the Rocky Mountain Region.
3. The privileges of checking out books from the Helen Fowler Library for your own personal use (non-members may use books only in the library, during library hours).
4. Discount of up to 30% on courses offered by the Denver Botanic Gardens.
5. Answers to your garden questions on flowers, shrubs, trees, and lawn.
6. Use of rooms in Botanic Gardens House and The Education Building of the Boettcher Memorial Center for flower shows, classes, study groups and other meetings pertaining to horticulture, botany, or conservation.
7. Identification of native and cultivated plants, both woody and herbaceous of the Denver Metropolitan area, including the mountains.
8. Opportunity to participate in a wide range of activities sponsored by the Denver Botanic Gardens and its affiliated organizations.

When one thinks of less than one dollar a month to help support the many and varied programs and benefits at the Denver Botanic Gardens, all can agree it is still the best buy in town!

For Everyone's Benefit

If you are planning a move, please notify the office a month in advance. Second Class mail can not be forwarded and increased postal rates are making it too costly for us to replace mailings. The Post Office will provide a form or just send the office a note giving old and new address and date of change. Thank you.

NOTED MYCOLOGIST TO TALK ON WESTERN MUSHROOMS

Orson K. Miller, Jr. Ph.D., Professor of Botany, Virginia Polytechnic Institute, noted author and lecturer of mycology, will speak before a joint group of Colorado Mycological Society and Denver Botanic Gardens members, Monday, July 8, 7:30 p.m. at Horticulture Hall, 1005 York Street.

Dr. Miller has studied and collected mushrooms extensively throughout the United States and much of Europe and is participating in a research project in the tundra of Alaska and Canada. He is the author of many articles in scientific journals and more recently of the popular mycology book *Mushrooms of North America*.

Members of the Colorado Mycological Society and the Denver Botanic Gardens will be admitted free when the membership card is shown at the door. An admission fee of \$2.00 will be made for others.

Good Reading

The June *Horticulture* has an article by Herb Gundell on the joys and sorrows of vegetable gardening in the Rocky Mountain Area.

* * * * *

DID YOU KNOW?

The *Jolly Green Gardener* is the publication for Junior Members of the Denver Botanic Gardens, with 250 subscribers at the present time. It is a two-page flyer sent out six times yearly. Geared to the age group 9-14, it consists of illustrated articles on a variety of scientific subjects as well as puzzles, recipes and a craft corner. The feature article is always seasonal, whether it be on plants, animals, or insects. In winter the focus is on the tropical plants growing in the Boettcher Memorial Conservatory.

Craft suggestions and puzzles usually relate to the main article. Last month "Constructing an ANT FARM" corresponded to the article on the physical characteristics of ants.

This year, to give some continuity to the six issues, there is a series of articles on spices. The recipe of the month is designed to utilize the spices which are described. Puzzles add a note of humor and stimulates some outside research. "Library Notes" encourages library use with reviews of books felt to be of interest to the junior members. It is surprising how much can be put into one issue.

Who puts it all together? Eileen Bloustein, volunteer from the Associates of the Denver Botanic Gardens. Eileen arrived in Denver 2½ years ago and joined us then as a conservatory guide. A professional artist, a scholarship and fellowship student during her years of training, she holds a BFA degree from the Rhode Island School of Design, Providence, Rhode Island and an MFA degree from Pratt Institute, Brooklyn, New York. Eileen taught at the High School of Music and Art in New York City and exhibited paintings and sculpture in group shows.

In addition to her Botanic Gardens work, Eileen teaches advanced painting at the Jewish Community Center and is an active member of the Information and Hospitality Council of the Denver Art Museum.

JULY CLASSES

SPECIAL

Dr. Gambill will lead another field trip on July 7! This addition to our schedule will be a car tour to see more of the unusual woody plants in Boulder. (The group on June 1 didn't even leave the C.U. campus because there were so many worthwhile things there.) Meet at 9 a.m. in front of the University Museum.

Plan to attend the informative session on July 27 on *Canning and Freezing Garden Produce*. Jackie Anderson, Denver Home Extension Agent, will present all sorts of ideas to save your vegetable harvest and money too. Those interested should meet at 9 a.m., Classroom "C". FREE.

The *Field Trip to Loveland Pass* is full but a few spaces remain for the *Tree Walk in Washington Park*. Dr. Feucht will meet those interested at 1300 E. Virginia Avenue at 9 a.m. on July 12. This park has some of the loveliest and most unusual trees in Denver. Come see the 60' *Gymnocladus dioica*, the 70' *Prunus serotina* and the uncommon (for this area) *Xanthocercus sorbifolia*.



Xanthocercus

Also, Dr. Brunquist will lead the *Plant Identification Field Trips* on July 3rd and 17th. On the third the group will divide with Dr. Brunquist explaining the wild flowers and Dr. Zeiner working with grasses. Members of her winter class may be particularly interested to avail themselves of this opportunity.

As a guide to the members and guests who attend our field trips, we have listed the CONSERVATION LIST of Colorado wild flowers. Leave them and their plants where you find them!

Buttercup Family: All Columbines (*Aquilegia* species)
Sugarbowls: Bush Clematis (*Clematis hirsutissima*)

Rocky Mt. Clematis
(*Clematis pseudoalpina*)

Dogwood Family: Dwarf Cornel: Bunchberry (*Cornus canadensis*)

Fern Family: All ferns, except Bracken.

Figwort Family: All Paintbrush (*Castilleja* species)

Fumitory Family: Tall Corydalis (*Corydalis caseana*)



Spiranthes

Gentian Family: All Gentians, especially the Fringed Gentians (they belong to the genus *Gentianella* now, instead of *Gentiana* and Tulip, or Prairie Gentian (*Eustoma russellianum*))

Heath Family: Pipsissewa; Prince's Pine (*Chimaphila umbellata*)

Swamp, or Mt. Laurel (*Kalmia polifolia*)

All the "Wintergreens," or *Pyrolas*, especially Woodnymph;

Star-flowered Pyrola (*Moneses uniflora*)

Honeysuckle Family: Twinflower (*Linnaea borealis*)

Iris Family: Blue-eyed Grass (*Sisyrinchium* species)

Mustard Family: Prince's, or Desert Plume (*Stanleya pinnata*). They may contain large amounts of selenium and poison cattle.

Orchid Family: All Orchids, particularly Lady's Slipper (*Cypripedium*), Coral Root (*Corallorhiza*), Fairy Slipper (*Calypso*), Bog Orchid (*Habenaria*), Ladies Tresses (*Spiranthes*)

Primrose Family: Parry Primrose (*Primula parryi*)

Rockjasmine (*Androsace chamaejasme*)

Fairy Primrose (*Primula angustifolia*)

Pea Family: Groundnut; Potato Bean (*Apios americana*)

Purslane Family: Pigmy Bitterroot (*Lewisia pygmaea*)

Saxifrage Family: Boykinia (*Telesonix jamesii*)

Golden Saxifrage (*Saxifraga serpyllifolia*)

Grass-of-Parnassus (*Parnassia* species)

Mitrewort (*Mitella* species)

Woodland Star: (*Lithophragma glabrum*)

Violet Family: Birdsfoot Violet (*Viola pedatifida*)

All alpine plants and flowers, even the species which grow at lower altitudes. Also any flower or plant which is obviously rare. Also Ball Cacti.

Note: This is an enlargement of a list which appeared in *The Green Thumb* October - November, 1958. This list was prepared by E. H. Brunquist and other members of the Denver Botany Club, with the cooperation of George W. Kelly, former editor of *The Green Thumb*, and of the Denver Museum of Natural History.

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Since it is now the season for vacations, perhaps this thought may be pertinent: Darwin once said that every traveler should be a botanist since plants furnish the chief embellishment of all landscapes.

A short trip that could test this dictum is to the Plains Conservation Center, 15 miles southeast of Denver. The 2000 acres of the Center are being restored to their original condition when the first homesteaders arrived and built their sod houses, workshops, sheds and school houses. About 1500 acres remain in short and mid-prairie grassland. A little more than one-half of this acreage was farmed for a few years. So far as is known the remainder has had no mechanical, mineral or chemical treatment. It was, however, subject to considerable overgrazing and to severe drought.

Most of the original native species of plants and animals are still present. Buffalo and Grama grass are the dominant plants although there are many other natives present. Antelope, prairie dogs, jack and cottontail rabbits can be seen along with many species of birds.

Mr. Herbert I. Jones is President of the Plains Conservation Center and Evan E. Obrecht is in charge of the physical property. He greets the public, collects fees (.50¢ per person) and provides other services in keeping with the Center.

The Center, which is well worth visiting, is easily reached by driving southeast on the Parker Road, a half mile or so beyond Cherry Creek Dam and turning east on East Hampden Avenue. Continue on this road for 5 or 6 miles to the entrance of the Center on the north side of the road. Please schedule all trips with Mr. Obrecht at 771-1166.

One set of Ricketts' *Wild Flowers of the United States* is available in the Gift Shop. This monumental work covers the continental U.S. and is lavishly illustrated with excellent photographs. Although it certainly is not a field guide (it consists of 6 volumes), it is a valuable reference tool for any botanist and a most handsome addition for anyone's library.

For your information:

Plants are not the only purchases made at the Gardens! New equipment received in the spring months include:

- (1) Heavy duty snow plow for Ford tractor.
- (1) Disc harrow attachment for tractors.
- (1) Dodge van truck.
- (1) Dodge stake body truck with hydraulic lift gage.
- (1) Shredder for compost and soil mixing.

All these were purchased under the Revenue Sharing plan and are most welcome additions to our inventory.

* * * * *

The Dawes Arboretum Newsletter reports a novel suggestion from Michigan State University to prolong the life of cut flowers. The mixture, believe it or not, includes common soda pop, the kind you drink. The recipe is as follows: mix one quart of Sprite or Seven-up, one quart of water, and a half teaspoon of chlorine bleach. According to the source the bleach helps slow down the bacterial growth and the citric acid and carbonation helps to unblock the water conducting vessels in the stems of the flowers.



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GARDENING TIPS FOR AUGUST

Getting ready for winter doesn't seem like a timely activity, yet for the garden shrubbery and woody plants it is an important one to begin now. Gardeners who have lived in Colorado very long know that we can have occasional early freezes which can catch trees and shrubs by surprise while they are still in a vigorous growing condition and not able to cope with cold weather. October of 1969 and September of 1971 should serve as good examples of what can happen.

What can one do to get ready? First of all, it is a good idea to withhold fertilizer applications on all except those plants that are obviously having nutritional problems. There is no point at this time of year to push more growth. The time to do this is in spring. Plants are trying to slow down now, but with continued artificial irrigation and applications of fertilizer to keep the turf green there is a tendency to keep a plant in a soft, succulent condition. Thus it may not have time to get ready for winter.

Withholding water on a gradual basis will also tend to help trees and shrubs to start their normal hardening-off period early. Emphasis should be put on the word *gradual*. To cut off the water supply too suddenly can lead to just as much damage as an early freeze.

These recommendations, of course, are somewhat generalities because some plants have the ability to get ready for winter regardless of what is done, how they are watered, or how fertilized. Some good examples are oaks and lindens. These trees as well as others actually start getting ready for winter in July. Take a look at some of the trees in your yard now. You will find that some have ceased putting out new growth and have formed buds which will be the growth for the next year. Others, like the walnut, soft maple, green ash and goldenraintree are developing a second flush of growth. These are the ones that are most vulnerable to an early freeze; for these a gradual withdrawal of water is most important.

Vegetable Garden Problems

The high price of food which led to a tremendous increase in the number of vegetable gardens has also led to an increase in the number of problems. Some of these were pointed out in July Gardening Tips and, at the risk of being redundant, I should repeat some warnings and also discuss some new problems.

You should be seeing signs of the tomato hornworm by now, first evidenced by chewed foliage and black droppings. For a small number of plants, they are easily picked off, but Sevin does a good job also.

Tomatoes and potatoes are afflicted by another insect known as a psyllid. This pest is often detected only after the damage has already been done. The adult and the nymph stages of the psyllid feed by sucking the plant juices, leading to a yellowed condition known as "psyllid yellows." Often the leaves are curled as well as yellow, causing a stunting or distortion which will result in little or no fruit on tomatoes and small, marble-like potatoes. A spray or dust of Malathion or Diazinon will help to reduce this problem.

Waiting Period With Pesticides

Frequently, this column as well as most garden literature on the use of pesticides will indicate that there is a waiting period after spraying and before harvesting of an edible crop. We are often asked the purpose of this waiting period and why it differs from one chemical to the next and one crop to the next. For example, Sevin has a one day waiting period on such things as asparagus, beans, carrots, peppers and tomatoes, but will have a three day waiting period on broccoli, cabbage, cauliflower and head lettuce, a seven day waiting period on raspberries, fourteen days on chard, leaf lettuce and spinach. Similar variations occur with other garden pesticides such as Malathion and Diazinon. The reason the waiting period varies from crop to crop is a combination of the nature of the chemical itself, the type of carrier used in the chemical and also the texture of the foliage of the crop. The question then arises how does one remember all these things? The answer is you don't. At least you don't try, but the information is present on the label of every product you buy. This is why it is so important to read the label and then follow instructions explicitly. If the label does not list the crops you are spraying then you are using the wrong chemical. Call your county extension office for assistance in these instances.

Mites in Junipers

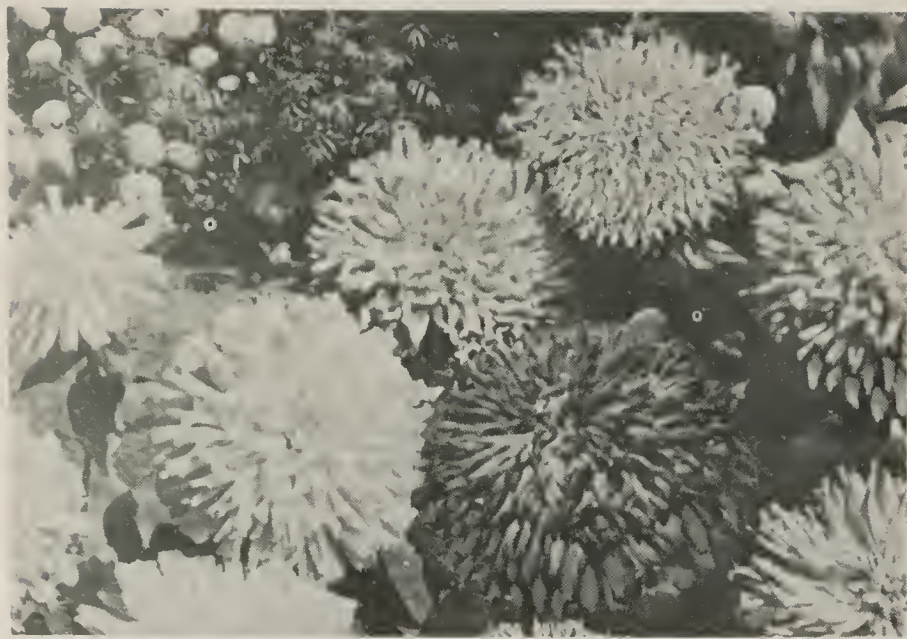
At this time of year much browning occurs on the inside of upright and spreading junipers. Sometimes this browning is the result of natural shading in cases where junipers have been heavily sheared, but more often than not the browning is the result of heavy infestations of the spider mite. If allowed to go unchecked, the mite population will build up rapidly during this hot weather and can severely injure or even kill some valuable evergreens. Applications of Kelthane or combination sprays containing miticides will bring them under control. Also look for the presence of mites on other trees and shrubs, also garden flowers.

For those not wishing to use pesticides, reasonably adequate control can be obtained by forceful washing down of the plants with a garden hose. This should be done every few days to be effective but do not over-water the plants in the process. Such practice can also lead to mildew problems in roses, zinnias and other similar mildew-prone plants.

MR. KNAUER LEAVES FOR NEW POST

Andrew R. Knauer, Assistant Director of the Denver Botanic Gardens since 1969, has accepted the position of Director of the Bayard-Cutting Arboretum, Great Rivers, Long Island, N.Y. Bayard Cutting Arboretum, well known for its collections of conifers, rhododendron hybrids, lilacs, and numerous other plants as well as a test site for roses, shrubs, and trees, consists of 643 acres of which 130 acres are open to the public daily.

We are sad to see Mr. Knauer leave, for he has contributed a great deal to the development of the Denver Botanic Gardens. We offer congratulations and best wishes on his new position.



ANNUALS

This summer there are several different varieties of annuals that are on display for the first time. They will be seen in the large display bed east of the education building. All are members of the composite family — *Arctotis*, African daisy; *Dimorphotheca*, Cape marigold; *Gaillardia*, 'Raspberry Red', 'Lemon Delight' and 'Butterscotch Bronze'; *Gerbera*; *Machaeranthera*, Tahoka daisy and *Venidium*, monarch-of-the-veldt.

The large bed inside of the fence will show shades of yellow, orange and mahogany. Included are yellow and orange calendula, cosmos 'Bright Lights', zinnia 'Zenith Yellow' and a daisy flowered zinnia introduced this year called 'Chippendale'.

Interspersed among the other display beds will be some test varieties as well as some All-America Selection varieties. Test varieties, which may or may not make a good showing, are alyssum 'Oriental Night', marigolds 'Golden Boy', 'Aquarius', 'Honeycomb', and 'Stardust', petunias 'Viva', 'Blue Skies' and 'Champagne', snapdragon 'Lemon Rocket' and nicotiana 'Nicki-Pink'. AAS varieties include dianthus, 'Magic Charms', marigold 'Happy Face', zinnias 'Peter Pan Scarlet', 'Peter Pan Orange' and 'Scarlet Ruffles', and hollyhock 'Summer Carnival'.

Other varieties you will see are ageratum 'Blue Mink', alyssum 'Carpet of Snow', basil 'Dark Opal' (fragrant), celosia 'Forest Fire', marigolds 'First Lady', 'Spun Gold' and 'Triple Gold', petunia 'Appleblossom', snapdragon 'Little Darling' and zinnias 'Bonanza', 'Polar Bear', 'Rosy Future' and 'Wild Cherry'.

NOTED MYCOLOGIST, DR. ALEXANDER H. SMITH WILL SPEAK AT MYCOLOGICAL SOCIETY MEETING

Dr. Alexander H. Smith, former Curator of the Mycological Herbarium, University of Michigan, Editor of *Mycologia* from 1945 to 1950 (official publication of the Mycological Society of America), renowned mycologist, professor, author and lecturer, will speak before a joint group of Colorado Mycological Society and Denver Botanic Gardens members, Monday, August 12, 7:30 p.m. at Horticultural Hall, 1005 York Street.

Dr. Smith is currently doing extensive research on the genus *Lactarius*, and is eager to study the species of *Lactarius* in Colorado. He is the author of numerous articles in scientific journals plus many mycological books, several of which are in the Helen Fowler Library and the Gift Shop.

Members of the Colorado Mycological Society and the Denver Botanic Gardens will be admitted free when the membership card is shown at the door. Otherwise, the admission fee is \$2.00.

AUGUST CLASSES

Mr. George Grimes will give an illustrated lecture on *Identification of Common Mushrooms* Saturday, August 17 at 9:30 A.M. in classroom "C". All sorts of mushrooms are evident now and the characteristics of a few of the most common will be explained. The lecture is free of charge.

Space is still available for Dr. Feucht's August 16th tree walk in Fairmount Cemetery, E. Alameda and Quebec. Those attending should meet at 9:00 A.M. in the Mortuary parking lot, which may be reached by proceeding east on Alameda to Quebec, then turning south for a short distance. This trip was originally scheduled for City Park so please note change!

Those interested in attending Dr. Brunquist's popular *Plant Identification Field Trips* should meet at the Botanic Gardens House, 909 York Street, at 9:00 A.M. on August 7th or 21st. These trips offer an excellent opportunity to learn the local flora.

The field trip to Mt. Goliath is already full. Perhaps some of our members would be interested in going up on their own at another time. Take Highway 40 to the Mt. Evans turnoff at Idaho Springs and follow the road above Echo Lake to the Mt. Goliath parking area (about 3 or 4 miles from the Echo Lake junction). Please remember, keep on the trails, don't pick the flowers, dress warmly and wear walking shoes.

The water-lily class scheduled for August 22nd has been cancelled. It is hoped that the Gardens will be able to offer the class at a future date.

Preview of Fall Classes

Beginning in September Mr. Fukuma will be teaching a *Bonsai Class*, an *Advanced Flower Arrangement Class* will be instructed by Lee Ashley, and an evening class in *General Botany* will be taught by Dr. F. H. Wingate. Additional information on these classes and others will be found in the Fall Schedule of Classes.



ROSE SOCIETY JUDGING SCHOOL

The 1974 Rocky Mountain District Judging School, sponsored by the Denver Rose Society, will be held Saturday, August 3rd and Sunday, August 4th, starting at 8:30 A.M. each day, in the Horticulture Hall, Denver Botanic Gardens, 1005 York Street. Fees are \$10.00 for instruction and examination for the apprentice rose judge certificate, or \$5.00 for instruction and auditing. In addition to assisting one in qualifying for the apprentice certificate, the school is designed to broaden one's knowledge of the rose. For more information, call Ross Lahr, 771-5200.

CALENDAR OF EVENTS

AUGUST 1974

AUGUST

1)	7:30 p.m.	Botanic Gardens House - Main Room	Colorado Open Space Council
3)	8:00 a.m.	Ed. Bldg. - Horticulture Hall	Denver Rose Society - Rose Judging School
4)	8:00 a.m.	Ed. Bldg. - Horticulture Hall	Denver Rose Society - Rose Judging School
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5)	7:30 p.m.	Ed. Bldg. - Lecture Room "A"	Sierra Club
6)	* 9:30 a.m.	Ed. Bldg. - Lecture Room "B"	Ikebana International
6)	* 10:00 a.m.	Ed. Bldg. - Herbarium	Herbarium Committee
6)	* 12:00 a.m.	Ed. Bldg. - Horticulture Hall & Lecture Room "C"	National Parks Maintenance Seminar
6)	* 1:00 p.m.	Botanic Gardens House - Dining Room	Editorial Committee
6)	7:30 p.m.	Botanic Gardens House - Dining Room	Audubon Society
7)	9:00 a.m.	Botanic Gardens House - Parking Lot	PLANT LIFE FIELD TRIP - Dr. Brunquist
8)	7:30 p.m.	Ed. Bldg. - Lecture Room "A"	Sierra Club (Conservation Committee)
8)	8:00 p.m.	Ed. Bldg. - Horticulture Hall	Colorado Mountain Club - Program
9)	7:30 p.m.	Botanic Gardens House - Main Room	Denver Dahlia Society
10)	10:00 a.m.	Ed. Bldg. - Lecture Room "B"	Organic Soil & Food Association
10)	1:00 p.m.	Ed. Bldg. - Horticulture Hall	Gladiolus Show OPEN TO PUBLIC 1:00 - 5:00 p.m.
11)	10:00 a.m.	Ed. Bldg. - Horticulture Hall	Gladiolus Show OPEN TO PUBLIC 10:00 a.m. - 5:00 p.m.
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12)	7:30 p.m.	Ed. Bldg. - Horticulture Hall	Colorado Mycological Society Dr. Alexander Smith, speaker
12)	7:30 p.m.	Botanic Gardens House - Main Room	Sierra Club (Wildlife Committee)
13)	* 9:30 a.m.	Ed. Bldg. - Lecture Room "B"	Civic Garden Club - Division "C"
13)	* 9:30 a.m.	Ed. Bldg. - Horticulture Hall	Ikebana International
13)	* 4:00 p.m.	Botanic Gardens House - Dining Room	Executive Committee
14)	* 7:30 p.m.	Botanic Gardens House - Dining Room	Landscape Industry Council
15)	7:30 p.m.	Ed. Bldg. - Lecture Room "C"	Organic Gardening Club
16)	7:30 p.m.	Ed. Bldg. - Lecture Room "B"	Colorado Bonsai Club
16)	7:30 p.m.	Ed. Bldg. - Herbarium	Botany Club
17)	9:30 a.m.	Ed. Bldg. - Lecture Room "C"	Mycology Class - Mr. Geo. Grimes
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20)	7:30 p.m.	Ed. Bldg. - Horticulture Hall	Sierra Club
20)	7:30 p.m.	Botanic Gardens House - Main Room	Audubon Society
21)	9:00 a.m.	Botanic Gardens House - Parking Lot	PLANT LIFE FIELD TRIP - Dr. Brunquist

CALENDAR OF EVENTS—AUGUST, 1974 (Continued)

22)	7:30 p.m.	Botanic Gardens House - Main - Dining & Kitchen	Men's Garden Club
22)	7:30 p.m.	Ed. Bldg. - Lecture Room "B"	Capitol Hill United Neighborhood
22)	8:00 p.m.	Ed. Bldg. - Horticulture Hall	Colorado Mountain Club - Program
24)	1:00 p.m.	Ed. Bldg. - Horticulture Hall & Lecture Room "B"	Denver Dahlia Society Show OPEN TO PUBLIC 1:00 - 5:00 p.m.
25)	10:00 a.m.	Ed. Bldg. - Horticulture Hall	Denver Dahlia Society Show OPEN TO PUBLIC 10:00 a.m. - 5:00 p.m.



SEPTEMBER

3)	* 10:00 a.m.	Ed. Bldg. - Herbarium	Herbarium Committee
3)	* 1:00 p.m.	Botanic Gardens House - Dining Room	Editorial Committee
3)	7:30 p.m.	Botanic Gardens House - Dining Room	Audubon Society (Wildlife Workshop)
3)	7:30 p.m.	Botanic Gardens House - Main Room	Colorado Mountain Club - Conservation
4)	9:00 a.m.	Botanic Gardens House - Parking Lot	PLANT LIFE FIELD TRIP - Dr. Brunquist
5)	7:30 p.m.	Botanic Gardens House - Main Room	Colorado Open Space Council
5)	7:45 p.m.	Ed. Bldg. - Horticulture Hall	Denver Orchid Society
7)	8:00 a.m.	Ed. Bldg. - Horticulture Hall	National Junior Horticulture Association - Dr. Feucht

*Members or enrollees only.

COLORADO GLADIOLUS SHOW

Saturday — August 10th, 1:00 P.M. to 5:00 P.M.
Sunday — August 11th, 10:00 A.M. to 5:00 P.M.
Place — Denver Botanic Gardens
1005 York Street

The 21st annual Colorado Gladiolus Society show is programmed around the theme "Modern Maturity", and is open to all gladiolus growers. Exhibitors need not be members of the Society, but are cordially invited to join. Meetings are held the fourth Tuesday of each month in the Horticulture Hall, Denver Botanic Gardens, 1005 York Street. For more information, call Mrs. Carl Faurschou, 455-8245.

This year's show is sponsored by Columbia Savings and Loan of Colorado. Exhibitors will vie for trophies and ribbons in several categories.

THE LIBRARY VOLUNTEERS AND THE LIBRARIAN send thanks to all the members of the Denver Botanic Gardens, and their friends, who contributed books and magazines for the Book Sale in May. You all helped us turn over to the Helen Fowler Library just over \$1600 for the acquisition of books for the Library. We are grateful to you all and ask that you remember that we're already collecting for next year's sale.

DUTCH ELM DISEASE SURVEY

The spread of the major killer of American elms (*Ulmus americana*) is currently being monitored by the Colorado State Forest Service. Survey of the Denver District is headed by Ken Hostetler, Community Forester, who is officed in the Denver Botanic Gardens House. He has seven crew members working to locate and map all elm trees, and by fall all Denver should be mapped. To retard the spread of the disease, all infected trees must be removed and deadwood four inches or more thick must be trimmed. The goal of the State Forest Service is to assist municipalities and counties in slowing the spread of Dutch elm disease and to replace removed trees with new plantings.

* * * * *

Plant Records Center Committee Meeting

A meeting of the Plant Records Center Committee was held at the Gardens on July 26. Many officers of the American Horticulture Society, Directors of Botanic Gardens throughout the U.S., and other distinguished horticulturalists were in attendance. A Mt. Goliath Field Trip on Saturday was also scheduled for the committee members. The Plant Records Center is a data processing center established to serve the scientific, professional and amateur community (horticulture, botany, forestry and medicine) which draws on the botanical disciplines for information and materials.

* * * * *

Plant Identification

One of the many benefits of a membership is assistance in identifying native and cultivated plants of the Denver Metropolitan area, including the mountains. Plants brought in for identification should be fresh, unwilted specimens in water or a plastic bag or be carefully pressed and dried. It is important for accurate identification that whole flowers, leaves, and portions of stems be present. It is also helpful to know where and when the plant was collected. Leave your name and phone number with the specimen.

DAHLIA GARDEN PLANTED

During the month of May members of the Denver Dahlia Society were busy planting tubers in the new Dahlia Garden at the Denver Botanic Gardens. The tubers were donated to Denver Botanic Gardens by commercial Dahlia growers in Holland, California, Ohio, Oregon, New York and Colorado. Members of the Dahlia Society also donated some of their favorite varieties.

The garden is planted in four plots with all plants labeled so visitors can identify the varieties they like. There are about 285 plants in the garden featuring all sizes from dinner plate to the small pompon and all of the 15 color range is represented.

There are many new introductions among the collection such as 'Dorothy Comstock', 'Frances Priess', 'Martha Ann', 'Kerma', 'Swell', 'Gentle Giant', 'Real Dandy', and 'Delegate'. Other favorite dahlias in the garden are 'Edna C', 'Lula Pattie', 'Bedford Sally', 'Almond Joy', 'Orchid Princess', 'Smarty', 'Estranita', 'Charles Dickens', 'Margaret Duross', 'Mary Elizabeth', 'Kelvin Floodlight', 'Jacqueline Kennedy', 'Shirley Jane', 'Evelyn Foster', 'Ivory Lady', and 'Holland Festival'.

The dahlia collection at the Denver Botanic Gardens is one of the most unusual in the state and will be quite a display by late August. Visitors are encouraged to stop and see the dahlias during the blooming season and to visit the Denver Dahlia Society Show held at the Denver Botanic Gardens August 24 and 25.

DENVER DAHLIA SOCIETY SHOW

Saturday — August 24th, 1:00 P.M. to 5:00 P.M.
Sunday — August 25th, 10:00 A.M. to 5:00 P.M.
Place — Denver Botanic Gardens
1005 York Street

For the first time, the annual Denver Dahlia Society Show will be expanded to two days.

Membership in the Society is not required to enter displays, and exhibits will be judged and trophies and ribbons awarded. For information concerning the show and the Society, call Janet Mentgen, 421-4735. Meetings are held the second Friday of each month in the Denver Botanic Gardens House, 909 York Street.

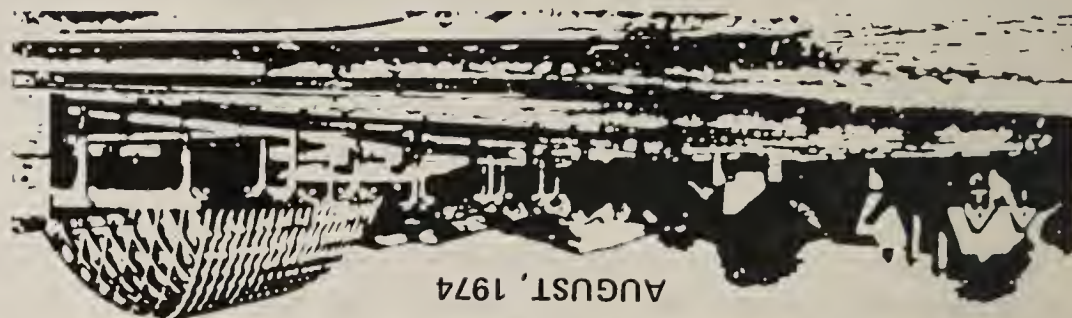


Associates Donate Display Case

Once again an expression of gratitude is extended to the Associates for their donation of a fine display case, custom-built for the Denver Botanic Gardens. This much needed addition will be used to display some of the small plants, such as orchids, which visitors do not ordinarily get to see. The new case has been set up in the Education Building lobby, next to the pool display.

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AUGUST, 1974

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HEMEROCALLIS OR DAY LILIES?

By whatever name you know and prefer to call them, they are one and the same. Some of you may think of the old Lemon Lily, which was a lemon yellow forerunner of the modern Day Lily, or others may think of the specie *Fulva*, which grows abundantly along the roads in the middle west and is a medium brown in color.

Did you know that Denver Botanic Gardens, in cooperation with Region 9 of the American Hemerocallis Society, is host to an official display garden of the AHS? This project got under way two years ago, with the first permanent planting being made last year. Something over three hundred cultivars (varieties) were planted in the area around the Iris Garden. The first winter showed a remarkably small percentage of loss — only four plants.

Day Lilies are divided into three basic groups: the Miniatures, in which the diameter of the flower does not exceed 3 inches; the Small Flowered, in which the blooms are over 3 inches in diameter, but do not exceed 4½ inches; and finally, the Large Flowered, in which the diameter of the blooms range from 5 inches on up. A few examples have been known to measure 9 inches in diameter, but the majority of the Large Flowered range from 5½ to 7 inches.

And as for colors, there is every shade of yellow from the very palest to the golden colors; shades of pink, from very pale, thru the multitude of melon pinks and on into the shades

of light rose. White is still an imaginary color in the Day Lily, but persistent hybridizing is bringing near whites closer and closer to the goal. There are no blues, but many shades of lavender and purple and lastly, many shades of red, from the rose colors to the very near blacks.

Day Lilies usually begin blooming about the time the Iris bloom season comes to a halt, and continues on thru the summer. In many cases, the Miniatures are among the early bloomers and if you want to see some of these little darlings, hurry on out to Denver Botanic Gardens. Some varieties will continue bloom until the first frost in the fall. Last year, we had one variety blooming on the 18th of October, so this will demonstrate what a wide range of time is covered by the Day Lily bloom.

This spring we have added something over 40 varieties to our display garden and I would like to add that varieties which were planted on the 10th of May are now in bloom.

As this is written in early July, our Day Lily Garden is nearing 40% of total bloom. This will increase and peak bloom should come in the latter part of July or early August. Since Day Lilies are not widely grown in Colorado, we hope that many of you will visit the display garden and enjoy the bloom season with us. We feel sure that if you do, you will want to add a number of "Hems" or Day Lilies to your own garden.

Jack Riley



Green Thumb Newsletter is published monthly by Denver Botanic Gardens, Inc., 909 York Street, Denver, Colorado 80206. The Newsletter is included as a benefit of membership in the Denver Botanic Gardens, regular membership dues being \$10.00 a year. Items for publication are welcome. The deadline for copy to the editor is 2:00 p.m. on the 10th of each month preceding publication. Editor — Margaret Sikes, 297-2547, Ext. 23.



GARDENING TIPS FOR SEPTEMBER

To me, September is the unsure month. It is a time when we can expect, "any day now," a frost which will bring the tender annuals and garden vegetables to a sudden halt. At the same time we can hope for the "Indian Summer" to get the last tomato ripened on the vine.

Speaking of tomatoes, if you do end up with a lot of unripened fruit, try wrapping them in newsprint and storing in boxes in a warm but dark place. Clean fruit before wrapping. Keep greenest at bottom and the "whiter" ones at top. Often, you can enjoy ripe tomatoes to Thanksgiving Day or longer. They may not taste as good as vine-ripened but still seem to taste better than store bought.

Fall Chores

Now is a good time to begin reconditioning your garden soil. I call it "composting in place." As you remove annuals and cut back dying tops of garden perennials, chop them up with a sharp spade and plow into vacant areas of the garden. If plowed in while still moist and green, the garden refuse will decay considerably before the ground freezes. This system also spreads out the annual fall chore of spading the garden and eliminates the back-breaking job of turning a compost pile. Leave the turned ground rough and in clods. Let winter's freezing and thawing action break them down for you. You will have mellow soil to work next spring.

While you will want to keep your lawn watered and green on into the late fall, try to reduce frequency of watering near trees and shrubs until leaves begin to fall off deciduous trees. Less water helps to promote hardening off of woody plants. Avoid letting them get too dry, however.

Seeding a Lawn

September is a good month for putting in grass seed or sod. Bluegrass is a cool season plant and will develop strong roots and tillers (side shoots) in the fall. There is also less risk of gully-washing rains in fall-seeded lawns than in those planted in spring. For details on proper preparation for seeding and/or sodding a lawn, request free copies of C.S.U.'s "Service-in-Action" leaflets on these subjects. Call 355-8306 or write directly to the author at 909 York Street, Denver 80206.

Buy Bulbs Early

Spring bulb planting time will soon be here. For the best quality bulbs, buy early. They store just as well or even better in your own home as in a garden center. Keep dry and in a cool place, away from bright light. If you store in your refrigerator, don't leave them too long. They tend to develop mold in the more humid environment of most refrigerators.

I began this article by stating that September is an uncertain month, yet it is also one of the most beautiful. I look forward to the cool, crisp nights. Frankly, I also get tired of mowing, watering and constant weed-pulling. So, Welcome, September.

TREE OF THE MONTH

With the fall season approaching, it seems appropriate to feature a tree that provides consistent and brilliant fall color. To me, the Tatarian Maple is one of the best. This small tree, known scientifically as *Acer tataricum*, is a native of S.E. Europe and W. Asia. It resembles the more common Amur Maple, *A. ginnala*, but has mostly unlobed, coarsely-toothed leaves.

In mid-summer, the Tatarian Maple develops bright red, winged fruits which stand out against a dark green foliage. As the fruits drop in late summer, the foliage quickly transforms from green to a showy yellow. (The Amur Maple turns scarlet in fall.)

This small tree looks best grown as a multi-trunked or clumped plant. To see some excellent specimens, drive by So. Josephine Street and E. Warren Avenue in Denver. (Near the University of Denver.) Several fine specimens can be seen right along the street.

Dr. James R. Feucht



CHILDREN'S GARDEN GRADUATION

The Annual Children's Graduation will be held at 1 p.m. Saturday, September 14, in Horticulture Hall. Certificates will be awarded to those children who have successfully completed the program and prizes will be presented to the winners of the best gardens. Refreshments will be served. All welcome.

COMING EVENT OF IMPORTANCE

Thalassa Cruso, well known author and TV personality, will be here at the Gardens on October 16 and 17 for a lecture and clinic. More information later but be SURE TO SAVE THOSE DATES!



TREE AND SHRUB PLANTINGS

There have been several new plantings of trees and shrubs in the outdoor gardens at Denver Botanic Gardens, including spruces, junipers, oaks, lilacs, and members of the rose, honeysuckle, dogwood, pea, sumac, staff-tree, saxifrage, and St. Johnswort families.

Picea pungens and *P. pungens* var. *glauca* (Colorado blue spruce), Pinaceae.

P. abies (Norway spruce), Pinaceae.

Juniperus chinensis 'Blaauw', 'Hobert', Cupressaceae.

J. horizontalis 'Bar Harbor', 'Emerald Isle', 'Hughes' and 'Low Green', (Creeping Junipers), Cupressaceae.

J. procumbens, Cupressaceae.

J. sabina 'Blue Danube' and 'Scandia', Cupressaceae.

J. scopulorum 'Lakewood Globe' and 'Tabletop', Cupressaceae.

J. squamata 'Parson', Cupressaceae.

Quercus macrocarpa (bur, or mossy-cup oak), Fagaceae.

Q. rubra (red oak), Fagaceae.

Potentilla 'Sutter's Gold', Rosaceae.

Prunus glandulosa var. *sinensis* (flowering almond), Rosaceae.

Pyracantha coccinea var. *pauciflora*, Rosaceae.

Spiraea prunifolia (bridal wreath), Rosaceae.

Rosa harisonii (Harisons yellow rose), Rosaceae.

Prinsepia sinensis, Rosaceae.

Kolkwitzia amabilis (beauty-bush), Caprifoliaceae.

Viburnum sieboldii, Caprifoliaceae.

V. x carlcephalum, Caprifoliaceae.

V. orientalis, Caprifoliaceae.

Cornus sericea 'Cimarron', Cornaceae.

C. mas (Cornelian-cherry), Cornaceae.

Syringa sweginzowii 'Albida' and 'Superb', Oleaceae.

S. tomentella, Oleaceae.

Amorpha canescens (lead-plant), Leguminosae.

Rhus typhina var. *laciniata* (Staghorn sumac), Anacardiaceae.

Euonymus alata 'Compacta', Celastraceae.

Hydrangea arborescens, Saxifragaceae.

Hypericum kalmianum, (St. Johnswort), Hypericaceae.

Frequently lists like the above have appeared in the *Newsletter*. It is a way of informing the membership of our progress, of course, but also it is hoped that if you are planting a new garden or adding to an established one, the lists may be helpful. If one can see a plant growing it is usually easier to determine whether or not it might be suitable for the desired effect in your garden.

PAINTING IN ALL-COLORADO ART SHOW

Eileen Bloustein is an active volunteer at the Gardens as Editor of the *Jolly Green Gardener* (publication for junior members of the Denver Botanic Gardens), conservatory guide, and member of the *Green Thumb* Editorial Committee. Eileen, who is also an artist and art instructor at the Jewish Community Center, has had a painting accepted for exhibition at the All-Colorado Art Show held from July 13 to September 8 at the Denver Art Museum. Paintings were submitted by 933 Colorado artists and a jury of three selected 178 paintings for exhibition, including Eileen's. The subject of Eileen's acrylic painting is a draped quilt and is entitled "Uncovered". Congratulations, Eileen.



AFRICAN VIOLET JUDGING SCHOOL

The Rocky Mountain African Violet Council will sponsor an African Violet Judging School on September 27, 28 and 29th in Classrooms A and B. The information given can be helpful to anyone interested in growing or exhibiting African violets but those wishing to take the examination and become judges will be required to show an AVSA membership card.

The hours are: Friday, September 27, 6:30 to 7:30 p.m.

Saturday, September 28, 9 a.m. to 4 p.m.

Sunday, September 29, 9 a.m. to noon

12 to 1 p.m. — Lunch

1 p.m. — Examination

The cost is \$5.00.

Mrs. Harold Rienhardt of Syracuse, N.Y., the outgoing president of the African Violet Society of America, Inc., will be instructor for the school.

For more information, please call Willie King at 333-1238.

AT LAST

A valuable reference tool has been deposited in the Helen Fowler Library. After years of work, a twenty-five year index of *The Green Thumb* magazine has been compiled. This lists articles by author and subject and covers the years 1944 through 1968.

To Organizations that use the Denver Botanic Garden Facility:

Are you planning special programs or events this year? If so, and they are open to the public, please remember that we are glad to publicize the events in the *Newsletter*. The deadline for articles is the tenth of the month preceding publication.

THRIFT SHOP

The University Thrift Shop, 600 Ogden Street, is open 9 a.m. to 4 p.m., Mondays through Saturdays. Proceeds from the sale of donated clothing and appliances are given to numerous civic organizations, including the Denver Botanic Gardens. Items may be taken to the shop at any time during store hours. Our next benefit week is Sept. 30 – Oct. 5. Your contributions are appreciated.

CLASSES

By now, all should have received the Fall List of Classes. Remember to sign up as soon as possible for those that interest you. Don't delay for many are limited in size.

Last time this season to study native and exotic plants in the field. Dr. Brunquist will lead *Plant Identification Field Trips* on September 4th and 18th. Meet at 909 York at 9 a.m. Free

As a special treat, growing plants *hydroponically* will be explained and demonstrated. Your instructor has been doing this for years and has had some amazing results. He has grown a bushel of tomatoes on one plant outdoors repeatedly! This class will be limited to 20 students so all can have a chance to learn first hand. September 7, 9 a.m., fee \$1.00. Call to register and for further directions.

Mr. Fukuma will again teach a *Bonsai* class. This will be offered on Monday evenings from September 9 to October 7, 7 to 8:30 p.m. Classroom B. The cost is \$20.00 for members and \$25.00 for non-members.

A *Boulder Tree Walk* will be held on Saturday, September 14, at 9 a.m. Mr. Campbell Robertson will meet those interested at the Boulder Public Library (Canyon Boulevard west of Broadway). Free.

Lee Ashley will teach a class for those who wish to become more proficient in the art of *Flower Arrangement*. It is planned from September 17 to October 15, 10 to 12 noon. Classroom B. The cost is \$22.50 for members and \$27.50 for non-members (\$10.00 and \$15.00 plus \$2.50 per session for flowers).

General Botany will be offered again this fall! This academic class will be taught by Dr. F. H. Wingate from September 19th to December 12, 6:30 to 9:30 p.m. The cost is \$25.00 for members and \$30.00 for non-members. The class is limited to 15 students because of the microscopic work that is planned for the students.

Finally September classes will end in a blaze of color with a session on *Dahlias* on September 21st at 9 a.m. Classroom A. Mr. Glen Mentgen of the Denver Dahlia Society is well equipped to answer all questions about the planting and care of this lovely flower. Free.

CLASSES OFFERED BY OTHER INSTITUTIONS AT THE DENVER BOTANIC GARDENS

FLORAL DESIGN WORKSHOP

September 30 – December 4

7 - 9 p.m. – Classroom A

This course which is offered by the Community College of Denver is primarily planned for students who wish to work in the floral industry.

Instructor: Mr. Lee Ashley

TERRARIUMS, DRIED FLOWERS and DISH GARDENS

October 3 – October 31

to be taught at Granny's Gardens

7 to 9 p.m.

5050 Leetsdale Drive

This mini-course is also offered by the Community College and taught by Lee Ashley.

Please call 266-1881 or 893-8868, Ext. 253, for further information on either of the above courses.

A-A-AHCHOO!

What do *Iva xanthifolia*, *Amaranthus retroflexus* and *Ambrosia elatior* have in common? Sufferers from "hay-fever" may be particularly interested in the display that Dr. Zeiner and her committee have arranged in the Herbarium this month. Many of the culprits are captured under glass so those who wish may learn them and perhaps avoid them. Besides herbarium specimens, pictures of the plant and the magnified pollen grains are also on display, courtesy the J. J. Waring Allergy Plant Collection.

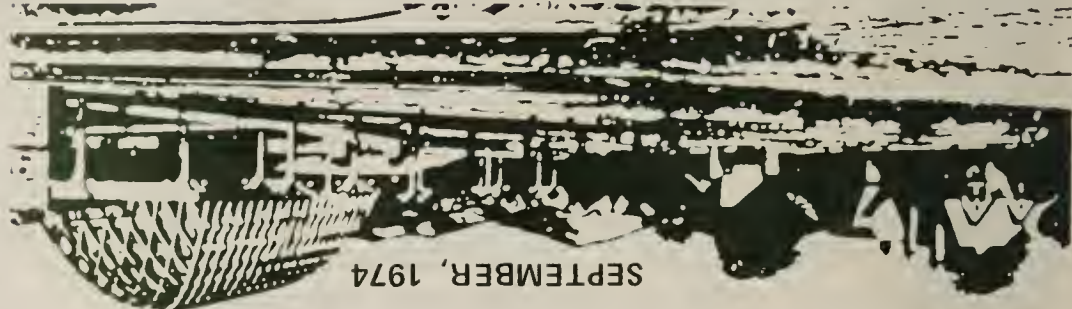


MINOR BULB STUDY

The experimental minor bulbs sent to the Gardens in October, 1973, by the Netherlands Flower-bulb Institute, New York, began flowering in February and continued into July. *Crocus* 'E. P. Bowles' was first to bloom and *Brodiaea* 'Queen Fabiola' concluded the flowering. Seventy-one varieties were represented in the shipment of 16,892 bulbs including alliums, lily of the alai, daffodils, crocuses, irises, brodiaea, glory of the snow, dogtooth violets, crown imperials, hyacinths and grape-hyacinths, star-of-Bethlehem, squills and Lebanon squills, windflowers and winter aconites. Most varieties did well and the study will be continued next year. Thanks again to the volunteers who spent many hours last October planting the bulbs.

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SEPTEMBER, 1974

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The Victorian Society of Colorado is pleased to announce a pair of lectures by noted British authorities on Victorian styles, Edward and Jane Fawcett. Mr. Fawcett is associated with The National Trust in England as the Director of Public Relations, and Mrs. Fawcett has served as secretary of the Victorian Society in London for the past ten years.

Mr. Fawcett will speak Monday, September 30 at 3 p.m. on "The Victorian Garden," and at 8 p.m., Mrs. Fawcett's topic will be "Queen Victoria's Taste." Both lectures will be held in historic International House, 1600 Logan, the 1895 home of William Fisher, founder of the Daniels and Fisher Company. Between the lectures there will be a social hour and a Victorian dinner will be served in the International House dining room.

Dinner reservations and lecture tickets, priced at \$2.00 per lecture or \$3.00 for the pair, are available at the Molly Brown House, 1340 Pennsylvania Street, or by contacting Joan Thill, VSC secretary, at 534-0452. Tickets and dinner reservations are limited, so those interested in attending are asked to make arrangements as soon as possible to insure a place.

SHADES OF THE KEYSTONE COPS!

Since an electric security system has recently been installed at the house, it was not surprising on the second day of operation, when all was confusion. About 7 a.m. a Guard patrol car zipped down York Street heading toward the house; this was closely followed by three Denver Police cars screeching to a stop in front of the Education Building. Five policemen and one policewoman cleared the fence without delay. (A good trick on her part since she was wearing a skirt!) The Grounds Foreman was at his desk drinking coffee when he was accosted by two policemen who demanded to know what he was doing. Startled, for

who is at his best at that hour, he replied, "I'm working." After all was sorted out, we believe the alarm was triggered by a gardener watering at the house and a new guard coming on duty who didn't know where to report. Anyway no harm done although those of you who live close might have wondered about the strange goings on. Still it is nice to know the police are so responsive but as the gardener said, "A burglar wouldn't stop to water the lawn."

Beginning in September, the Helen Fowler Library will return to the hours of 9 a.m. to 5 p.m., Monday through Saturday, and 1 p.m. to 5 p.m. on Sundays. Thursday evening hours are being discontinued at this time.

A LOVELY SIGHT!

Those of our members who missed the display in the lobby court in July and August missed a beautiful sight. Tuberous begonias of all colors from white to pink, rose, red, apricot, flame orange and salmon graced the area. Many were rose form picotee with many variations from dainty edging, to heavily edged, spotted or mottled. More comments from our visitors were received about this display than any other this year. (One gentleman from Hawaii remarked that he had never seen anything like them over there.) The photographers too were particularly appreciative.

Our thanks to the staff who ordered the tubers from Antonelli Brothers of Santa Cruz, California, the two volunteers, Jody Arnold and Elaine Jackson, who put the tubers in flats of peat moss, and finally to Ruth Christie who designed the display.



Green Thumb Newsletter is published monthly by Denver Botanic Gardens, Inc., 909 York Street, Denver, Colorado 80206. The Newsletter is included as a benefit of membership in the Denver Botanic Gardens, regular membership dues being \$10.00 a year. Items for publication are welcome. The deadline for copy to the editor is 2:00 p.m. on the 10th of each month preceding publication. Editor — Margaret Sikes, 297-2547, Ext. 23.



GARDENING TIPS FOR OCTOBER

Last month this column stated that September was unpredictable in that a killing frost could occur at any time. October is more dependable from the standpoint that records over 101 years have placed the average frost to occur about October 10. The earliest frost on record occurred September 8th. Of course, we can always hope for a long, extended fall, with frost not occurring until November. Records show that this has happened, with a killing frost not occurring until November 15th. In any case, it is likely that October will be the month we clean up the garden, getting rid of tops of perennials as well as annuals after the hard frost has destroyed them.

If you have a compost pile, these materials can be added to it, but it is probably not a good idea to include weeds and some annuals that produce a lot of seed. Some seeds will survive composting and become a pest in your garden when it is spaded later on.

It is also best to avoid using plants in your compost that have had diseases. This could include asters with aster yellows as well as petunias, calendulas, and similar annuals that occasionally develop common mosaic viruses. Such viruses can often survive many years in soil as well as in compost. Incidentally, if you had trouble with a virus-type disease in your flower garden, next year try the same trick that farmers use in "rotating the crops." Instead of planting the same kind of bedding plant in a given location, change to something else for a year or two. Otherwise the soil will have to be pasteurized or sterilized with some kind of fumigating chemical. This is usually impractical in a garden area.

Problems with Honeylocust

As a direct result of heavy tree losses due to DED, many Colorado communities are developing vigorous replanting programs. Unfortunately, we apparently have not learned a lesson from past city-wide tree planting programs. Dutch elm disease should have taught us to avoid overplanting of any one type of tree. Honeylocust now seems to be the most overplanted species and, as feared, a "new" disease seems to be making an appearance. This disease is called *nectria* canker. It is not really a new disease, although probably new to this area. The disease is most frequently found in association with old wounds caused by "lawn moweritis" (scarring with the lawn mower), sunscald in young trees, and freeze injury such as occurred in 1969 and 1971. Damage caused by the latter may be responsible for the build-up of *nectria* canker. Numerous cases of the disease were confirmed this past summer. Symptoms are a gradual thinning of the tree and eventually the entire tree dries up. The canker is often difficult to locate but it is usually at the base and will be an irregular discolored area, often covered with orange-brown, pimple-like spore bodies. The bark beneath these areas is usually brown and sometimes having a fermenting odor. The best advice for avoiding the disease is to prevent mechanical damage to the trunk and taking care of any pruning wounds immediately. A light spray with household Lysol, covered by a wound dressing, should help reduce the problem.

Weed-and-Feed Fertilizers

Despite repeated warnings, misuse of weed-and-feed type fertilizers continues. The labels on all commercial products contain clear warnings not to use these materials within the root zone of trees and shrubs. The reason should be obvious in that the chemicals contained in these fertilizer-weed killers combinations will enter the root system of a tree and result in injury or death. My advice is not to use them at all. When you get right down to it, they are not that convenient. Most trees are in a lawn area and if you avoid the root system with the weed-and-feed product you will still need to go back and fertilize beneath the tree with a separate product which does not contain weed killers.

Bulb Planting Time

Spring flowering bulbs can be planted any time now. It is best to get them in before there is a risk of the ground freezing. Most stores that sell bulbs will have charts describing how deep they should be planted. Bear in mind, though, that the chart is designed for well-drained soils and largely for the midwestern and eastern states. As a general rule, bulbs are planted 2" deeper in this area than indicated in commercial literature. A well-drained soil is still a must. Bulbs will do poorly in heavy clay soils, particularly in their second year.

Seeding and Sodding a Lawn

This is a good time to seed or sod your lawn. Sod has become much more popular in recent years and it is probable that more new lawns are sodded than seeded. Don't be misled, however, by claims that a sodded lawn does not require soil preparation. The soil on which sod is to be laid should be prepared in almost the same manner as for seed. The important thing is to fluff up the soil and add organic matter if necessary to keep the soil open and porous. This will allow quick penetration of new roots from the sod. Sod laid on a heavy clay soil that has little or no preparation will generally look fine for the first year, begin to deteriorate due to oxygen starvation and shallow rootedness the second year, and reach what I call the "third-year slump" the following year.

For more information about bulb planting and directions for seeding and sodding a lawn, write to the author at 909 York Street, Denver, 80206.

— Dr. J.R. Feucht

TREE OF THE MONTH

Bur Oak

Bur oak (*Quercus macrocarpa*), while not a native of Colorado, is one of the few oaks that will tolerate alkaline soils. Bur oak, often called mossycup oak, is native from North Dakota east into Maine, south to Virginia, and southwest into Texas and Oklahoma. It is also native in neighboring Nebraska and Kansas with the exception of the westernmost portions.

Bur oak is one of the most distinctive of trees, particularly in the winter condition. It forms a rustic silhouette outline,

(continued from page 1)

particularly due to the tendency of the plant to produce numerous stubby branches and also even the very young branchlets will develop corky ridges of bark. It may attain a mature height of 50' to 70'.

While the tree is of rather slow growth, it is long-lived and thus assumes a relatively permanent place in the landscape. It is strong wooded, does not break up in untimely snowstorms. With the exception of aphids, it has few other serious pest problems.

In addition to the distinctive growth habit of the tree, it is easily recognized in summer by its leaves with the deeply rounded lobes most commonly having one seep sinus at or near the center of the leaf. It is also distinctive from the standpoint of the acorn, which has a rather large nut and a cup covered with long, moss-like scales. Thus the name mossycup.



WELCOME TO THE NEW ASSISTANT DIRECTOR

Mr. Glenn M. Park has accepted the position as Assistant Director of the Denver Botanic Gardens. Mr. Park has been serving as Chief Horticulturist and Superintendent of the Botanic Garden of the Chicago Horticulture Society and has been particularly involved in the planting and maintenance of the plant collections. We are indeed fortunate to have a man of his background and interests joining our staff and know that our members will be looking forward to meeting and working with him.

The Wyeth Bowl, now on exhibit in the Helen Fowler Library, was presented to the Denver Botanic Gardens by Dr. John R. Durrance, of the Board of Trustees. Dr. Durrance selected this handsome piece of Royal Doulton as a tribute to "the public-spirited Denver women whose hard work, determination, and zeal in large measure helped to bring about the establishment of the Denver Botanic Gardens in 1951: Mrs. Alexander Barbour, Mrs. John Evans, Mrs. George H. Garrey, Mrs. Edward H. Honnen, Mrs. Henry B. McLister, Mrs. James J. Waring." Our thanks to all.

GUESS WHO'S COMING TO DENVER!

The Denver Botanic Garden Guild is pleased to announce that the entertaining, witty, and knowledgeable Thalassa Cruso is coming to Horticulture Hall for two appearances in October — a lecture at 8:00 p.m. on Wednesday, the 16th, and a plant clinic (where Mrs. Cruso urges people to bring problem plants and/or *specific* questions) at 10 a.m. on Thursday, the 17th.

Thalassa Cruso has lived and gardened in Boston since 1935. She was born and raised in England, where she had a thorough apprenticeship in horticulture at the hands of innumerable gardening relatives. Throughout her career as an archaeologist, curator, writer, wife, mother, and grandmother, she has gardened outdoors and indoors, here and abroad. And since 1967, when her television program, *Making Things Grow*, began, she has been a guide and mentor to America's indoor gardeners.

She is a Fellow of the Society of Antiquaries of London, a member of the Royal Archeological Institute, the Royal Horticultural Society, the Garden Club of America, the Garden Club Federation of Massachusetts, and the Massachusetts Horticultural Society, and is an accredited horticultural judge and the winner of many gardening and greenhouse awards.

In 1969, she was awarded the Garden Club of America Medal of Merit by the Chestnut Hill Garden Club. In 1970 she was the recipient of the Horticultural Society of New York's citation for distinguished horticultural service and the Garden Club of America's Distinguished Service Medal.

Mrs. Cruso's three books on gardening can be purchased at the Gift Shop or borrowed from the Helen Fowler Library. Copies of her books, plus herb vinegar will be on sale at both events in October.

Tickets are available at the Gardens and from Guild members. The cost is \$4 donation (tax deductible) for *each* event. All proceeds will go to the Denver Botanic Gardens for the herb garden extension.

The Guild, which is sponsoring this event, is one of the volunteer groups dedicated to enhancing the beauty of the Gardens. Totally responsible for the maintenance of the existing formal herb garden and underwriting and supervising its extension now in progress, the Guild also presents the annual Garden Tours and makes and bottles the herb vinegar available in the Gift Shop.

CONGRATULATIONS!

The winners have been announced for the Children's Garden program. Eleven beginning gardeners and 11 advanced received "Horn of Plenty" awards.

Congratulations to:

Charlotte Bender	Kathy Lacasse
Julia Blubaugh	Mark Luedke
Susan Decker	Maureen Oien
John Demerritt	Brad Pepin
John Horton	Patricia Turner
Kristi Jackson	

and to:

Kathleen Blubaugh	Danny Moe
Dana Christensen	Margaret Reum
Kevin Christensen	Renee Seney
Ken Horton	Mary Beth Vittetoe
John Kosmicki	Teresa Wiedel
Ashley Lyford	

OCTOBER 1974

OCTOBER

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CALENDAR OF EVENTS – OCTOBER, 1974 (Continued)

15)	7:00 p.m.	Education Building – Lecture Room “B”	Denver Junior Bonsai Club
15)	7:00 p.m.	Education Building – Horticulture Hall	Sierra Club
15)	7:30 p.m.	Botanic Gardens House – Main Room	Audubon Society
16)	* 9:00 a.m.	Education Building – Lecture Room “A”	Identification of Woody Plants – Dr. Feucht
16)	* 1:00 p.m.	Education Building – Lecture Room “A”	Guides Class – Mrs. P. Hayward
16)	* 7:00 p.m.	Education Building – Lecture Room “B”	Floral Design Workshop – Mr. Lee Ashley
16)	7:00 p.m.	Education Building – Horticulture Hall	D.B.G. Guild – Program – Thalassa Cruso, Speaker
17)	9:00 a.m.	Education Building – Horticulture Hall	D.B.G. Guild – Clinic – Thalassa Cruso
17)	*10:00 a.m.	Botanic Gardens House – Main Room	Around The Seasons
17)	5:00 p.m.	Education Building – Horticulture Hall	Iris Society – Meeting and Catered Dinner
17)	* 6:30 p.m.	Education Building – Lecture Room “B”	General Botany – Dr. F.H. Wingate
17)	7:30 p.m.	Education Building – Lecture Room “C”	Organic Gardening Club
18)	7:30 p.m.	Education Building – Lecture Room “B”	Colorado Bonsai Club
18)	7:30 p.m.	Education Building – Herbarium	Botany Club
20)	* 4:00 p.m.	Education Building – Horticulture Hall	National Parks and Recreation Association – Board and Committee

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21)	*	7:00 p.m.	Education Building – Lecture Room “B”	Floral Design Workshop – Mr. Lee Ashley
22)	*	8:30 a.m.	Education Building – Horticulture Hall	National Parks Convention
22)		7:00 p.m.	Botanic Gardens House – Main Room	Landscape Architects Meeting
22)		7:30 p.m.	Education Building – Lecture Room “C”	Gladiolus Society
23)	*	9:00 a.m.	Education Building – Horticulture Hall	Annual Associates Meeting and Luncheon
23)	*	9:00 a.m.	Education Building – Lecture Room “A”	Identification of Woody Plants – Dr. Feucht
23)	*	1:00 p.m.	Education Building – Lecture Room “A”	Guides Class – Mrs. P. Hayward
23)	*	7:00 p.m.	Education Building – Lecture Room “B”	Floral Design Workshop – Mr. Lee Ashley
24)	*	10:00 a.m.	Education Building – Lecture Room “B”	House Plants For The Amateur – Dr. Helen Zeiner
24)	*	6:30 p.m.	Education Building – Lecture Room “B”	General Botany – Dr. F.H. Wingate
24)		7:30 p.m.	Education Building – Lecture Room “A”	Capitol Hill United Neighborhood
24)		7:30 p.m.	Botanic Gardens House – Main Dining and Kitchen	Men’s Garden Club
24)		8:00 p.m.	Education Building – Horticulture Hall	Colorado Mountain Club – Program
26)	*	7:00 p.m.	Education Building – Horticulture Hall	Board of National Parks and Recreation Dinner

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28)	* 7:00 p.m.	Education Building – Lecture Room “B”	Floral Design Workshop – Mr. Lee Ashley
30)	* 1:00 p.m.	Education Building – Lecture Room “A”	Guides Class – Mrs. P. Hayward
30)	* 7:00 p.m.	Education Building – Lecture Room “B”	Floral Design Workshop – Mr. Lee Ashley
31)	*10:00 a.m.	Education Building – Lecture Room “B”	House Plants For The Amateur – Dr. Helen Zeiner
31)	* 6:30 p.m.	Education Building – Lecture Room “B”	General Botany – Dr. F.H. Wingate
31)	7:45 p.m.	Education Building – Horticulture Hall	Denver Orchid Society – Special Meeting

[illegible]

NOVEMBER

1)	*11:00 a.m.	Botanic Gardens House — Main Dining and Kitchen	Civic Garden Club
2)	9:00 a.m.	Education Building — Lecture Room “A”	Use of Latin Language in Botany — Dr. William G. Gambill
3)	9:30 a.m.	Botanic Gardens House — Main Room	Gloxinia Gesneriad Growers

*Members or enrollees only

OCTOBER CLASSES

Could you answer all these questions?

Dear Guide,

Thank you for showing me around to all the kinds of plants you have. One thing I don't know very well, or don't understand, is that how do the cocoanut, banana, and pineapple trees grow? I thought bananas and pineapples grew in Hawaii. Some of these plants I didn't know about till you told me about them. That place is really increatible. I like the turtles you have in the little pond. I like the banana trees best, well . . . almost all of them. How does the water come up from the building up in to the inside of the building? Do you ever water the plants? Will you throw away the banana trees when they have sprouted their bananas?

Sincerely,

Your friend Merri, the one that picked up
your stick that almost fell in the creak.

Well, become a guide and you'll have the chance to do so!

The class, *Tropical Plants of the Conservatory*, will meet Wednesday afternoons from October 2 to November 20 from 1:00 to 3:00 p.m. The cost is \$25.00 to be refunded if the student guides for a total of 40 hours.



Can you identify this tree in silhouette?

If not, better sign up for Dr. Feucht's class, *Identification of Woody Plants*. The class will be held from October 2 to the 23rd on Wednesday mornings from 10 to noon. The cost is \$10.00 for members of Denver Botanic Gardens and \$15.00 for nonmembers.

The other offerings in October as listed in the *Fall Schedule of Classes* are full but please check the November classes and plan to attend them.

PLEASE HELP

Around the Seasons is getting ready for the Christmas sale and could use pods, nuts, or cones that are interesting or unusual. Does anyone have seeds of money plant, statice, golden yarrow, teasel, allium, or buckeyes and sweet gum balls? All these and more can be put to good use.

Please bring to the House at 909 York on October 17 or call 297-2547 extension 23 for further information.

* * * * *

Saco Reinke DeBoer, pioneer Denver landscape architect and much-honored leader in the horticultural world, died August 16, 1974, in Denver at the age of 90.

Mr. DeBoer was born in Holland and came to Colorado in 1909. He began his career with the Denver Parks with a plan for the Sunken Gardens for Mayor Speer and continued there as landscape architect, planner, and consultant for more than 50 years. Much of the beauty of the Denver area, including its parks and parkways and its private landscaping was created by S.R. DeBoer.

He was a leader among the dedicated group which founded and built Colorado Forestry and Horticulture Association and worked for years to establish Denver Botanic Gardens. The Gardens officially began with Mr. DeBoer's original plan.

Probably no other person has done as much to make this region a green oasis.

* * * * *

The Denver Orchid Society's Annual Orchid Show will be held October 12th and 13th at the Denver Botanical Gardens. The hours will be 9:00 a.m. to 5:00 p.m. each day and the show is free to the public.

Anyone may enter orchid plants in this show for ribbon judging. Plant registration will be between 9:00 a.m. and 12 noon on Friday, October 11th, at the Botanical Gardens.

The show provides an opportunity to see the most prized orchid plants grown by area orchid hobbyists. Mark your calendar and come take a tour through this "small world" of beauty.

* * * * *

IT'S A 10TH ANNIVERSARY BIRTHDAY PARTY

It doesn't seem 10 years but that is how long the Associates have been serving the Denver Botanic Gardens. How time flies when you're doing something worthwhile and constructive!

The Volunteers will celebrate at the Annual Meeting on October 23rd in Horticulture Hall. The business meeting will be held at 11 a.m.; this will be followed by a luncheon where the Associates are guests of their organization and then our special speaker, Irene Mitchell, will tell us about "In Our Own Back Yard," a slide lecture on wild flowers.

Reservations may be made by calling Alva Schloss at 333-4980 or the Gift Shop by October 16.

* * * * *

Members of the Gardens will be sorry to learn of the retirement of Ernest A. Bibee. "Ernie," as he is known to all became a member of the staff in February 1965 and immediately faced the task of the opening of the Conservatory. Much of the selection of plant material and their planting and maintenance fell to him but despite the rush, the Conservatory looked beautiful for the formal dedication in January 1966.

Since then Ernie has taught a series of very popular classes; has given freely of his time speaking in the community; has taken all ages on tours and pointed out the features of the tropical and subtropical collection and has been generous in sharing his knowledge of house plant culture with the many questioners who call or come in for advice. His friends will be pleased to know that Ernie will keep busy both with speaking engagements and with his shop, *Dewdrops 'n' Plants* in Cinderella City. Best Wishes!

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Our first Life Membership has been received!

Our thanks go to Mr. Lucian M. Long of Colorado Springs, not only for his monetary expression in the future of the Denver Botanic Gardens, but also for his unfailing interest and participation in all our endeavors.

* * * * *

Visitors who have noticed blooms of pale lilac, or pink or white flowers with no leaves planted among the junipers at the entrance to the Conservatory, are admiring the colchicum. Thirty-six bulbs of the "autumn crocus" were planted in August. The unusual appearance of what would seem to be spring flowers guarantees interest on the part of all who see them.

PLAINS DEDICATION SET

The new Headquarters Interpretive Building at the Plains Conservation Center will be dedicated Saturday, October 26, 1974 at 11:00 a.m.

Governor John D. Vanderhoof has been asked to officiate at the ribbon cutting ceremony. He will be assisted by John C. Mitchell, President of the Denver Botanic Gardens Board of Trustees and Herbert I. Jones, Chairman of the State Parks and Outdoor Recreation Board. Mrs. Margaret Haberland is General Chairman of the event. Arapahoe County Commissioner, Pete Smythe, will be the Master of Ceremonies with the Invocation by Dean Herbert Barall of Saint John's Cathedral.

All friends of the Plains Conservation Center are cordially invited to attend.

Following the dedication and viewing of the new Headquarters facilities, refreshments will be served and guided tours along with prairie nature walks will be available for visitors.

The Plains Conservation Center was originated about 10 years ago on 2,000 acres of rolling pasture land owned by the West Arapahoe Soil Conservation District. The Center is located on East Hampden Avenue, five miles east of Cherry Creek Reservoir. The property is made available to the public as a nature — open space area and includes opportunities to observe plant and animal life and to visit the pioneer settler's sod house, old-time school and blacksmith shop. Operating funds are subscribed by the public and made available through a citizen sponsoring organization called the Plains Conservation Center Association. For further information contact Evan E. Obrecht, 771-1166.

AMERICAN HORTICULTURAL SOCIETY TO HOLD CONGRESS IN WASHINGTON, D.C.

Mount Vernon, Virginia — America's largest gathering of amateur and professional gardeners will convene at the 29th Congress of the American Horticultural Society in Washington, D.C., October 9-12, 1974. The theme of this year's annual Congress is "*Our Horticultural Heritage*." It will provide a forum of educational exchange for all participants.

Highlights of the four-day program include tours of private, federal period homes and gardens in historic Georgetown, Washington, D.C., and Old Town Alexandria, Virginia. George Washington's River Farm headquarters for the American Horticultural Society and now the National Center for American Horticulture, will also be on view for the Society's membership. Horticultural tours will be conducted at Dumbarton Oaks, Hillwood Gardens, Gunston Hall, Woodlawn Plantation, and historic Pohick Church.

For more information concerning the Congress of the American Horticultural Society, write:

AHS Congress Committee
c/o American Horticultural Society
Mount Vernon, Virginia 22121



Green Thumb Newsletter is published monthly by Denver Botanic Gardens, Inc., 909 York Street, Denver, Colorado 80206. The Newsletter is included as a benefit of membership in the Denver Botanic Gardens, regular membership dues being \$10.00 a year. Items for publication are welcome. The deadline for copy to the editor is 2:00 p.m. on the 10th of each month preceding publication. Editor — Margaret Sikes, 297-2547, Ext. 23.



GARDENING TIPS FOR NOVEMBER

Other than the final cleanup of the yard, one more turn of the compost and a little pruning here and there, I find it difficult to suggest too many gardening ideas at this time. Somehow, November and the other winter months should be the time for gardeners to relax and perhaps spend some time indoor gardening in containers.

With the wide variety of house plants available these days, it would be hard to try to describe all the things that could be done. Past records show, however, that Extension offices, florist shops and nurseries are deluged this time of year with calls on problems with house plants. The major problem encountered is with watering practices. Too many house plants are treated in the winter months the same way as in the summer months. This leads to such things as dropping of lower leaves, browning of the tips of the leaves, and a sudden yellowing or a development of off color.

House plants should be conditioned for winter even though they are indoors. First on the list is a gradual reduction of frequency of watering. This does not mean the plant should be allowed to dry up, but you should attempt to slow down its growth rate. This can be done to some extent by keeping the plant on the dry side. This is necessary for most house plants because they are accustomed to long days, which they will not be getting in the winter months. They also require higher humidity than is available when the furnace comes on in the winter. Keeping the plant on the dry side tends to slow down its metabolism, thus reducing its need for some of these requirements.

Another problem frequently encountered is the accumulation of soluble salts as a result of frequent, light watering. Soluble salts are even visible as a white crust on the surface of the soil and on the edges of the pots. These salts, when accumulated in sufficient amounts, actually cause a reverse flow of water from the soil to the roots, a process known as plasmolysis. This results in the death of roots and, ultimately, the top of the plant. The first symptoms are a marginal browning or a tip burn of the leaves. Soluble salts can be reduced by adding copious amounts of water from the top of the pot and allowing it to flow out of the bottom into a catch basin. To prevent the salts from returning, the catch basin should be emptied or the pots elevated so the bottom is not in contact with the surplus water. All house plants should be watered by using plenty of water so as to prevent any future accumulation of salts.

As a general rule, it is a poor policy to water from the bottom of the pot because of the salt problem. If you do water from the bottom or use wicks, occasionally flood from the top to remove the salts. The question always arises, "Where do the salts come from?" They are naturally in the soil and are the chemicals that make up the nutritional elements that plants need. It is an excess of these salts that cause the problem.

Perhaps this is a good time to reflect on the past growing season. With one of the driest springs on record, followed by a hot, dry summer, it is no wonder that gardeners were

plagued by a variety of problems they had not encountered for many years. Conditions were generally favorable for all types of insects. Insect populations seemed to be at an all-time high, undoubtedly as a result of the previous rather mild winter. A surprising thing was the increasing incidence of diseases. One would normally think that in a hot, dry year fungus diseases would be of little consequence. Yet, canker diseases in willows, cottonwoods and honeylocusts were plentiful. A relatively new disease in the area, *nectria* canker, was fatal to a number of established honeylocusts in the metropolitan area.

This fall, mildew on roses, sweet peas, zinnias and other mildew-prone plants was just as widespread as ever.

Not surprising was a very high activity of spider mites. They seemed to be on almost everything in the yard. Spider mites propagate quickly in hot weather. Other insects that were prolific included the tussock moth, pine needle scale (most abundant on spruce), tent caterpillar and elm leaf beetle. We will talk about the control of these at the appropriate time next year.

Perhaps the most frequently encountered problem resulted from our dry spring and summer. It seems that many people over-compensated for the dryness by watering their yards more frequently but did not really get the water down deep. This practice tends to seal off the air supply to the root system, causing oxygen starvation in plants that are sensitive. In a dry year it will also result in an accumulation of soluble salts in the root zone of many plants in the same manner as in house plants, as described above.

If you have a spruce tree whose needles are turning purple or a pine whose needles dropped off more than normally, you may have a salt problem.

What kind of year was it? For me it was extremely busy and, frankly, I am glad that the cold season is here again.

Dr. J. R. Feucht

THE DENVER ORCHID SOCIETY WILL HOLD AN ORCHID PLANT AUCTION ON NOVEMBER 15, 1974, IN THE HORTICULTURE HALL AT THE DENVER BOTANIC GARDEN. THE AUCTION WILL BEGIN AT 7:30 P.M. THERE WILL BE MANY MATURE PLANTS IN BLOOM AS WELL AS SOME NOT YET BLOOMING. THIS IS AN EXCELLENT OPPORTUNITY TO BUY THAT ORCHID PLANT YOU HAVE ALWAYS WANTED TO OWN OR TO ADD TO YOUR PRESENT COLLECTION.

Something new at the Gardens!

A film series has recently been inaugurated starting in November. These pictures of lovely gardens in other sections of the U.S. and the world will be shown Saturday afternoons at 1:30.

The first selected is "My Garden, Japan," which should be particularly interesting to those who participated in the tour last year.

The date is November 8 in Classroom C. Free and all welcome.



*
GIFT SALE
NOVEMBER 22 and 23

It's beginning to look a lot like Christmas here at Denver Botanic Garden as volunteers fashion holiday wreaths, blend rose petals and fragrances, bottle herb vinegar, gather seeds, pods and cones for their Eleventh Annual Gift Sale, Friday and Saturday, November 22 and 23 at 1005 York Street. Each year Boettcher Memorial Center is transformed into Holiday Mall when bedecked with Christmas gifts and trimmings, many of them made by volunteers especially for this event. Sponsored by Associates of Denver Botanic Gardens, the sale will be held from 10 a.m. to 4:30 p.m. each day.

Handcrafts will include heritage wreaths, wall hangings of herb topiary trees depicting the four seasons, spicy tree ornaments, potpourris and other fragrance gifts. As has become the custom, the handmade decorations that graced Botanic Gardens' Christmas tree last year will be offered. Remember? Black and gold satin wings fluttered from golden butterflies and cheery miniature trees were formed with richly ornamented brocade — exquisite additions to trim-the-tree collections.

Gifts that Grow. Fresh flower fanciers will enjoy giving or growing a hyacinth bulb atop a hyacinth glass of Hungarian crystal. Easy-to-follow directions are included in the duo-packaged gift. Crocuses in a yellow shoe or oxalis in red or white wishing wells; a few potted kitchen herbs and indoor cactuses for window gardens along with South African amaryllis and scented geraniums — these are the gifts that grow.

Gifts for Gourmets will include herb salt, herb vinegar, vanilla beans; decorative linen towels with fruit, flower or herb motif; ceramic mugs, teapots and pitchers with herb or flower design; serving dishes in the imagery of asparagus, celery or peas. For the past dozen years members of Botanic Gardens Guild have prepared herb vinegar from herbs grown and harvested from their nationally-known garden. This zesty vinegar will be available at a separate booth in Holiday Hall.

Gifts for the Garden will include copper fountains for indoor or outdoor gardens; brass wind bells, wind chimes and watering cans; bird houses and bird feeders. Indoor gardeners will welcome miniature tools for house plant care, pottery hanging baskets and some of glass for flowers afloat or suspended terrariums.

Children's Gifts. Hand puppets of cats, poodles, chihuahuas, lions, elephants and other animals; pole toys; gaily painted wooden tops in fruit forms; delightful English note papers, books and cards; Navajo ghost beads as well as owl or turtle pendants carved in Africa. The entire collection of Beatrix Potter books and figurines is carried in the Gift Shop

throughout the year but each charming character, whether Lady Mouse, Mrs. Benjamin Bunny, The Tailor of Gloucester or one of more than 30 others, is especially appropriate during the holiday season.

Gifts from Here and There. Quaint wall plaques of biblical figures (Noah's Ark, Jonah and the Whale) in muted blue, grey, yellow, brown and green, are a product of the Benedictine Monks of St. Andrews Priory who were expelled from Communist China and resettled in the high desert of California. Brockmann's figurines of birds, animals, mushrooms vary from tiny squirrels to hearth-size cats and rabbits. Trivets of flowers (pansies, daisies, ferns) in molded lucite will enhance a buffet or festive table. There will be brass galley trays, book ends, pipe holders; beveled glass jewel boxes and mirror trays; ruby crystal from West Germany; Venetian glass vases; heirloom Oriental jars; animals and figurines in marble, alabaster or stone from Darvas of Russia; Italian handpainted owl pitchers and owl boxes; Limoge boxes for cigarettes or candy; casseroles from France; Austrian petit point bracelets, pendants and earrings.

Gifts from the Far East. Handpainted porcelain collector birds (chickadee, meadowlark, warbler) in a limited series, signed by the Goto family of Japan, will be introduced to the Denver area at the sale.

Whether oriented toward flower arranging in the Ikebana tradition or gardening in the Japanese style shoppers will find containers, trays, figurines or books, nests of bamboo tables as well as woven baskets from miniature to beehive size. If a hive of bees attracted to the garden in the Oriental manner isn't your favorite gardener's cup of tea, beehive baskets would make handsome patio covers for a bag of charcoal or an unsightly wastebasket. Better yet, they'd be useful to cover poinsettia, Christmas cactus, kalanchoe or other short-day plants which, to bloom, require 10 or more hours of continuous darkness over an eight or nine week interval.

Books Are Lasting Treasures. More than 700 titles represent the newest or best volumes on environment, gardening, wild flower identification. They include such specialized topics as culture of roses, orchids, lilies or bromeliads; gardening under lights or glass, whether a greenhouse or terrarium. Books by Thalassa Cruso, are available as well as selections written by Colorado authors. Among these are George Kelly, H. D. Harrington, Walter Pesman, John Long, Bailey and Neidrach, Ruth Nelson, Wm. A. Weber and Ann Zwinger. *Edible Native Plants of the Rocky Mountains* by Dr. Harrington might be the solution to a soaring grocery budget and the *Vegetable Garden* issue of our Green Thumb magazine can be a handy reference or stocking-stuffer for inflation-weary gardeners.

Traditional Christmas items will include frankincense and myrrh packaged with directions for use. *A Merry Christmas Herbal* is an informative little volume on traditional holiday customs. Creches, pyramids and Christmas scenes of wood, cornhusk dolls, ceramic nativity sets will be available.

Calendars, stationery, holiday gift wrap, paperweights and coasters will be for sale as well as candles, incense, candle holders and candle rings.

Do-it-yourself Yuletide Gifts. Cones, pods and dried natural materials have been assembled by members of Around the Seasons Club for their project. Golden yarrow, Teasel, moneyplant are a few of many offerings for flower arrangers; sweet gum balls, acorns and chestnuts are sought-after ingredients for craftsmen.

A gift *from* the Gardens is a gift *to* the Gardens.

NOVEMBER 1974

1)*	11:00 a.m.	Botanic Gardens House — Main Room — Dining and Kitchen	Civic Garden Club
2)	9:00 a.m.	Education Building — Lecture Room “A”	Use of Latin Language in Botany — Dr. Gambill
2)	9:30 a.m.	Botanic Gardens House — Main Room	Gloxinia Gesneriad Growers
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4)*	7:00 p.m.	Education Building — Lecture Room “B”	Floral Design Workshop — Mr. Lee Ashley
5)	7:00 a.m. - 7:00 p.m.	Education Building — Horticulture Hall	General Election Day
5)*	10:00 a.m.	Education Building — Herbarium	Herbarium Committee Meeting
5)	7:30 p.m.	Botanic Gardens House — Main Room	Colorado Mountain Club — Conservation
5)	7:30 p.m.	Botanic Gardens House — Dining Room	Audubon Society Wildlife Workshop
6)*	10:00 a.m.	Education Building — Lecture Room “A”	Identification of Woody Plants — Dr. Feucht — (Makeup Class)
6)*	1:00 p.m.	Education Building — Lecture Room “A”	Guides Class — Mrs. P. Hayward
6)*	7:00 p.m.	Education Building — Lecture Room “B”	Floral Design Workshop — Mr. Lee Ashley
7)*	10:00 a.m.	Education Building — Lecture Room “B”	House Plants for the Amateur — Dr. Helen Zeiner
7)*	6:30 p.m.	Education Building — Lecture Room “B”	Gèneral Botany — Dr. F.H. Wingate
7)	7:30 p.m.	Botanic Gardens House — Main Room	Colorado Open Space Council
8)	7:30 p.m.	Botanic Gardens House — Main Dining Room and Kitchen	Denver Dahlia Society
9)	9:00 a.m.	Education Building — Lecture Room “A”	House Plant Care — Dave Lankhorst
9)	10:00 a.m.	Education Building — Lecture Room “B”	Organic Soil and Food Association
9)	1:30 p.m.	Education Building — Lecture Room “C”	“My Garden, Japan” Free Film
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11)*	7:00 p.m.	Education Building — Lecture Room “B”	Floral Design Workshop — Mr. Lee Ashley
11)	7:30 p.m.	Education Building — Lecture Room “C”	Colorado Mycological Society
11)	7:30 p.m.	Botanic Gardens House — Main Room	Sierra Club — Wildlife Committee
12)*	9:30 a.m.	Education Building — Lecture Room “B”	Civic Garden Club — Division “C”
12)*	12:30 p.m.	Botanic Gardens House — Main Room	Guides Meeting
12)*	4:00 p.m.	Botanic Gardens House — Dining Room	Executive Committee Meeting
13)*	9:30 a.m.	Botanic Gardens House — Main Dining Room and Kitchen	Denver Botanic Gardens Guild — Bottle Vinegar
13)*	1:00 p.m.	Education Building — Lecture Room “A”	Guides Class — Mrs. P. Hayward
13)	2:00 p.m.	Education Building — Horticulture Hall	“We Care” — Program and Catered Dinner
13)*	7:00 p.m.	Education Building — Lecture Room “B”	Floral Design Workshop — Mr. Lee Ashley
13)*	7:30 p.m.	Botanic Gardens House — Dining Room	Landscape Industry Council
14)*	10:00 a.m.	Education Building — Lecture Room “B”	House Plants for the Amateur — Dr. Helen Zeiner
14)*	3:30 p.m.	Botanic Gardens House — Dining Room	Development and Public Relations Committee Meeting
14)*	6:30 p.m.	Education Building — Lecture Room “B”	General Botany — Dr. F.H. Wingate
14)	7:30 p.m.	Education Building — Lecture Room “A”	Sierra Club — Conservation Committee Meeting
14)	8:00 p.m.	Education Building — Horticulture Hall	Colorado Mountain Club — Program
15)*	10:00 a.m.	Education Building — Horticulture Hall	Ikebana International
15)	6:00 p.m.	Education Building — Horticulture Hall	Denver Orchid Society — Auction

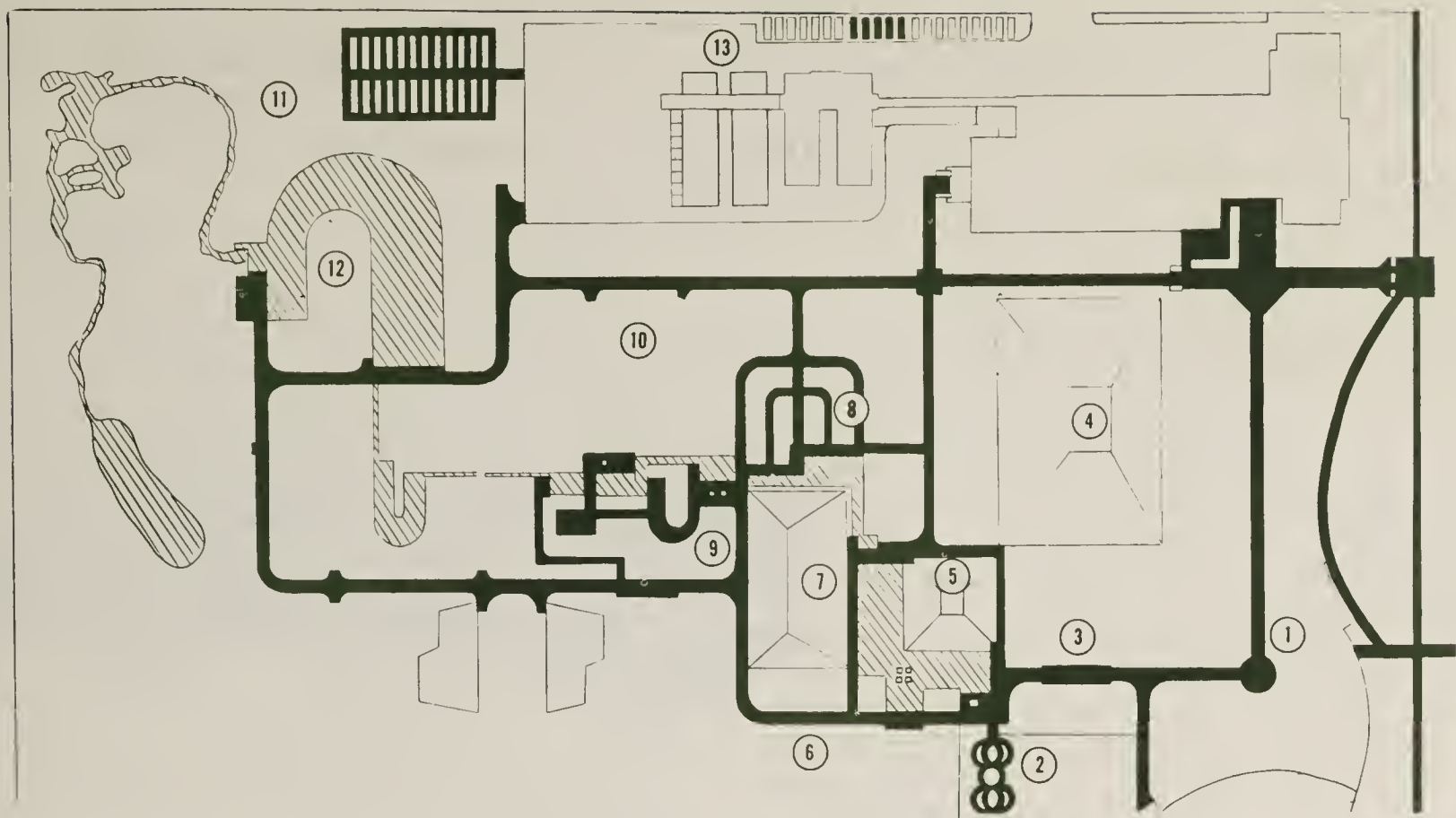
CALENDAR OF EVENTS – NOVEMBER 1974 (Continued)

15)	7:30 p.m.	Education Building – Lecture Room “B”	Colorado Bonsai Club
15)	7:30 p.m.	Education Building – Herbarium	Botany Club
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18)*	10:00 a.m.	Botanic Gardens House – Dining Room	House Committee Meeting
18)*	7:00 p.m.	Education Building – Lecture Room “B”	Floral Design Workshop – Mr. Lee Ashley
19)*	12:30 p.m.	Botanic Gardens House – Main Room	Rocky Mountain African Violet Council
19)*	4:00 p.m.	Botanic Gardens House – Conference Room	Board of Trustees Meeting
19)	7:00 p.m.	Education Building – Horticulture Hall	Sierra Club
19)	7:00 p.m.	Education Building – Lecture Room “B”	Denver Junior Bonsai Club
19)	7:30 p.m.	Botanic Gardens House – Main Room	Audubon Society
20)*	1:00 p.m.	Education Building – Lecture Room “A”	Guides Class – Mrs. P. Hayward
20)*	7:00 p.m.	Education Building – Lecture Room “B”	Floral Design Workshop – Mr. Lee Ashley
21)*	10:00 a.m.	Education Building – Lecture Room “B”	House Plants for the Amateur – Dr. Helen Zeiner
21)*	12:00 Noon	Botanic Gardens House – Dining Room	Colorado Garden and Home Show Meeting
21)*	6:30 p.m.	Education Building – Lecture Room “B”	General Botany – Dr. F.H. Wingate
21)	7:30 p.m.	Education Building – Lecture Room “C”	Organic Gardening Club
21)	7:30 p.m.	Botanic Gardens House – Main Dining Room and Kitchen	Men’s Garden Club
22)*	10:00 a.m.	Botanic Gardens House – Main Room	Ikebana International
22)	10:00 a.m.	Education Building – Horticulture Hall	Gift Shop Christmas Sale – Open to Public – 10:00 a.m. - 4:30 p.m.
23)	10:00 a.m.	Education Building – Horticulture Hall	Gift Shop Christmas Sale – Open to Public – 10:00 a.m. - 4:30 p.m.
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25)*	7:00 p.m.	Education Building – Lecture Room “B”	Floral Design Workshop – Mr. Lee Ashley
26)*	6:30 p.m.	Education Building – Lecture Room “B”	General Botany – Dr. F.H. Wingate
26)	7:30 p.m.	Education Building – Lecture Room “C”	Gladiolus Society
27)*	7:00 p.m.	Education Building – Lecture Room “B”	Floral Design Workshop – Mr. Lee Ashley

DECEMBER

2)*	7:00 p.m.	Education Building – Lecture Room “B”	Floral Design Workshop – Mr. Lee Ashley
3)*	10:00 a.m.	Education Building – Herbarium	Herbarium Committee Meeting
3)*	1:00 p.m.	Botanic Gardens House – Dining Room	Editorial Committee Meeting
3)	7:30 p.m.	Botanic Gardens House – Main Room	Colorado Mountain Club – Conservation
3)	7:30 p.m.	Botanic Gardens House – Dining Room	Audubon Society – Wildlife Workshop
4)*	7:00 p.m.	Education Building – Lecture Room “B”	Floral Design Workshop – Mr. Lee Ashley
5)*	6:30 p.m.	Education Building – Lecture Room “B”	General Botany – Dr. F.H. Wingate
5)*	7:00 p.m.	Education Building – Lecture Room “A”	Floral Design Workshop – Mr. Lee Ashley
5)	7:30 p.m.	Education Building – Lecture Room “C”	Colorado Open Space Council
5)*	7:45 p.m.	Botanic Gardens House – Main Dining Room and Kitchen	Denver Orchid Society – Christmas Party
6)*	11:00 a.m.	Botanic Gardens House – Main Room	Civic Garden Club
7)*	9:00 a.m.	Education Building – Lecture Room “B”	Christmas Wreath Making – Mr. Dick Hannigan

**Members or enrollees only*



PROGRESS AT THE GARDENS

If you haven't walked around the outside gardens this summer, you'd be surprised at the progress that has been made. Of course, the sunflowers that are the badge of the Children's Garden are gone as is the colorful display of annuals but at last the area on both sides of the steps near the parking lot is sodded in and there are many permanent plantings elsewhere.

As one starts across the walk from the Education Building toward the House, the blue fescue is first to greet the eye of the visitor. Also it is noticeable that many small shrubs and deciduous trees have been planted along the walk and east to the fence. ① Evergreens, daylilies and southernwood are evident as the walk curves toward the House. Next in view is the brick walk marking the Herb Garden Expansion ② and the dahlia stakes ③ showing the location of that garden.

The amphitheatre ④ is complete with lemon thyme between the flagstones at the bottom and the steps are finished to the top of the View Mound. ⑤

Looking south from the Anna Garrey Overview, one sees the Low Hammer Garden ⑥ which is currently undergoing

renovation; due west the turf mound ⑦ is completed and looking north one may see where the iris and hemerocallis are in place. ⑧ Siberian Iris have just been planted around the eastern extension of the Iris Garden. Further on, some roses may be seen in the front area of the Rose Garden ⑨ and new shrubs have been added near the allee of Austrian Pines to the south of the conservatory. ⑩

Exposed aggregate concrete walks are completed from the AARS beds to the Gates Garden ⑪ as is the bridge across the stream.

A recently constructed hexagon gazebo ⑫ provides a welcome stop for visitors. Built of red cedar, it is 20 feet across with a roof which rises from a height of 8 feet on the edge to 12 feet in the center. All the structural joints are fabricated with 1/4 inch steel "plates;" this is necessary since there are no cross ties. A drinking fountain is enclosed in the attractive structure which will serve as a focal point for people approaching the Gardens from Cheesman Park.

Finally, the propagation beds, shade houses and cold frames ⑬ are all full of material ready for the proper planting time — some will be put in soon if the weather holds.

Busy, Busy.

This summer, although generally tourism showed a decrease in Colorado, the Denver Botanic Gardens had many visitors. Some of the more unusual groups included three bus loads of French agriculture specialists, one of Australians and three of camera-carrying Japanese teachers. All told in 1974 so far the turnstiles have clicked off 170,478 people entering to see the displays. Of course, as always, there were many seeking help with gardening problems, plant identification and other specific questions. Fortunately, most were more organized than the lady who called and asked the common name of her house plant. When pressed for details, she responded it had green leaves!

Correction.

The list of honorees for the Wyeth Bowl should have shown the name of Mrs. Frank McLister rather than that of Mrs. Henry B. McLister. We regret the error.

The Doctor Is In!

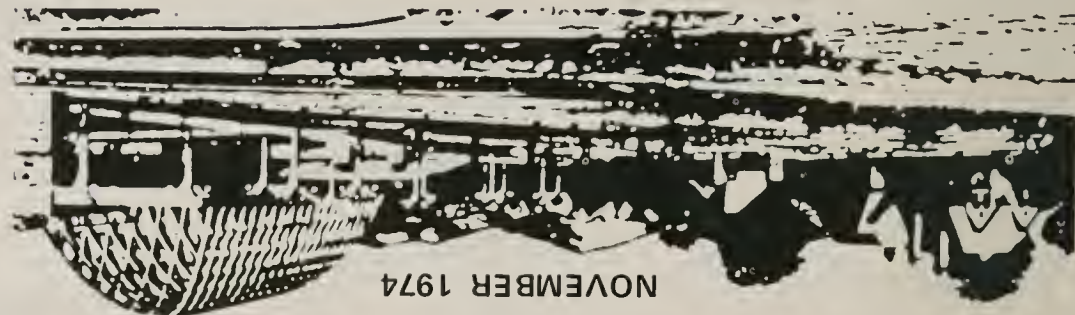
Greenhouse or conservatory staff members are on duty every Tuesday and Thursday afternoon from 1 to 3 p.m. in the Library to help answer plant questions. Questions may be asked of "Dr. Green" by phone, in person or in writing. Of course this does not mean that we will not attempt to be of service at other times but it is hoped this will make more efficient use of staff time.

* * * * *

Our members may be interested to learn that three students of the Children's Garden program received awards at the regional National Junior Horticulture Association meeting recently held at the Denver Botanic Gardens. Seth and Rachel Lederer and Ashley Lyford answered written questions dealing with horticulture and correctly identified lists of vegetables, fruits, flowers and ornamentals. Congratulations.

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R.S.V.P.

Currently, 60 volunteers are serving the public in approximately 45 agencies in Denver (including the Denver Botanic Gardens) under the auspices of the Retired Senior Volunteer Program. R.S.V.P., one of the several programs in the federal agency ACTION, offers older adults a recognized role in the community and the satisfaction of helping others. This organization tries to match abilities and interests with community needs. If you can spare a morning, or an afternoon, or perhaps a day, at least once a week and are age 60 or above, you may wish to volunteer. Why not telephone Harrison Harmon, 751-9615 for more details?

* * * * *

AN OLDER MODEL STUDENT BINOC MICROSCOPE IN VERY GOOD CONDITION HAS BEEN DONATED TO THE HERBARIUM BY DR. BRUNQUIST. THANK YOU VERY MUCH.

November Classes.

Remember that Dr. William G. Gambill, Jr., Director of the Botanic Gardens, will give a morning session on *Use of Latin in Botany*. Botanical Latin is an international language used the world over for the naming and description of plants. It is essentially a written language but the scientific names of plants often occur in speech. Rules of pronunciation will be discussed as will nomenclature. This is planned for Saturday, November 2, at 9 a.m. in Classroom A. Free.

Another free class is *House Plant Clinic* on Saturday, November 9, at 9 a.m. Classroom A. Mr. Lankhorst will diagnose and prescribe for ailing plants. Bring questions or samples.

And a sneak preview of coming attractions shows *Home Landscaping* with Al Rollinger and Larry Watson, a children's class in *Christmas Wreath Making* taught by Dick Hannigan and *Dried Flower Arrangements* by Avalonne Kosanke. Watch for the *Winter List of Classes* which shows these and many more.



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THIS WAS THE YEAR THAT WAS

Now that plants are going into dormancy it seems appropriate to reflect back on the type of growing season we had in Colorado. Overall, it was a most unusual one and probably one of the longest on record.

After a relatively mild winter, we experienced another spring, with the spring-flowering shrubs at their peak and not damaged by late frosts. In fact, if one could have predicted in advance, bedding plants could have been set out fully two weeks earlier than in a "normal" year. In the Denver area, the middle of May is generally considered the safe time to put out bedding plants. Yet in 1974, the last injurious frost, at least in the Denver area, occurred in late April. It was a dry spring, however, and this led to other problems. The lack of humidity, adequate soil moisture and rainfall may have held down some spring diseases, but insect pests started two to three weeks earlier and insect populations built up more rapidly than usual.

The tussock moth, for instance, normally has its peak hatch the first week in June. This past spring, hatching was observed as early as May 4th and the peak hatch occurred about the middle of the month. An intensive campaign was conducted to inform the public about what to do about tussock moth. This campaign, sponsored by Trees for Today and Tomorrow (TTT), The Cooperative Extension Service and the Denver Area Council of Camp Fire Girls, was thought to have been planned well in advance of tussock moth hatch. It turned out to be just in time to distribute 10,000 leaflets to spruce tree owners in the heavily infested tussock moth area of East Denver.

Aphids and mites were also on the move much earlier but, strangely enough, elm leaf beetle attack seemed to be light in the spring and very heavy later in the summer.

There appeared also to be a second generation of leaf rollers showing up in mid-summer. Because the leaves were already hardened by maturity, the tiny caterpillars could not roll up the leaf as they do in spring but were found crawling about the trees and pestering home gardeners by hanging down from silk threads.

In a year when temperatures were high and rainfall infrequent, one might expect that slugs and diseases in garden flowers would be minimized. This was not the case, however. Evidently, home gardeners over-reacted to the dryness by more frequent watering, which tended to encourage slugs and diseases. This same habit of more frequent, light waterings led to an increased incidence of oxygen starvation in woody plants as well as turf, particularly where soil drainage was poor. Frequent waterings, in fact, sealed off the air supply to the root system. Pines, particularly, had a difficult time.

This was the first year, for which this office has records, where deep-rooted trees such as cottonwood developed stress as a result of a lack of water. The amount of water applied to keep a lawn green and to keep the flowers thriving was not sufficient to penetrate into the deeper-rooted trees and to replenish the water supply at lower soil levels. As a result, cottonwood, hackberry and even some honeylocust were

subjected to severe stress. It is also believed that many trees, particularly cottonwoods, were under additional stress from slime flux disease which, when the tree has adequate moisture, is not a very serious problem.

The fall season was one of the most delightful experienced in many years. Lower soil moisture actually benefited many plants by enabling them to harden-off in plenty of time before the arrival of cold winter temperatures. We had one of the longest frost-free falls on record. Scott Wilmore, of W. W. Wilmore Nurseries, Wheat Ridge, indicated that his records and those of his late father showed that the previous record for a late killing frost (a "clean-up" type) occurred on October 23, 1918. This year, an actual clean-up frost did not occur in many parts of Denver until November 1st. Weather Bureau records indicate that the average clean-up frost in Denver is October 10. This would mean that this year, taking into consideration a late killing frost in the fall and an early frost-free spring, our growing season was extended by as much as 33 days beyond the average!

After the severe years of 1969 and 1971, we are entitled to a year like this. Let us hope that the forthcoming winter will also be kind for us. This does not mean that we should not have cold. Actually, we need some severe cold to help reduce insect populations for next year.

Dr. James R. Feucht



Did you see the display in the Lobby Court in November? If so, perhaps you will agree with O. W. Holmes:

When Spring is but a spendthrift's dream,
And summer's wealth a wasted dower,
Nor dews nor sunshine may redeem —
Then autumn coins his Golden Flower.

If you haven't been in the Education Building, hurry over for the chrysanthemums will soon be displaced by plants of the Christmas season. Again this year, Avalonne Kosanke will decorate the tree. Remember last year's decorations of brocaded butterflies and miniature trees? Come and admire her skill in fashioning unusual ornaments with Mother Nature's help.

DR. GAMBILL ELECTED TO BOARD OF DIRECTORS OF AABGA

Dr. William G. Gambill was recently elected to a three-year term on the Board of Directors of the American Association of Botanical Gardens and Arboreta. During the month of October, Dr. Gambill represented the Denver Botanic Gardens at the annual meeting of the AABGA, hosted in Boston by the Arnold Arboretum of Harvard University. Following these meetings, he flew to Washington, D.C. to represent the Botanic Gardens at the annual meeting of the American Horticultural Society. He is a member of the Plant Records Center Committee of AHS and participated in a quarterly meeting of this committee held at Barnard's Inn Farm on Martha's Vineyard.

As a Director of the AABGA, Dr. Gambill will serve as Chairman of the Membership Committee. In this connection, he has pointed out that individual memberships are available in the American Association of Botanical Gardens and Arboreta at \$15.00 annually. Among benefits of membership are included a subscription to the quarterly *BULLETIN OF THE AMERICAN ASSOCIATION OF BOTANICAL GARDENS AND ARBORETA*. Another privilege of membership is availability of a very active Placement Service, operated by AABGA which places dozens of qualified applicants in excellent horticultural positions each year. Membership also enables an individual to attend the annual National Meeting, as well as an annual Regional Meeting. Denver Botanic Gardens belongs to the Western Region of AABGA. The Strybing Arboretum of San Francisco hosted the Western Regional Meeting in March 1974. Anyone interested in obtaining a membership in the AABGA may contact Dr. Gambill for additional information and application forms. The Denver Botanic Gardens holds an Institutional Membership in this national organization.

Have you visited the Herbarium lately? One of the displays is particularly noteworthy. Ken Blankenship, a student at Metropolitan State College, is collecting, identifying, labeling and displaying plants as a special research project. His sheets are beautifully displayed; not only is the scientific information listed but also another card is present which shows other information for the general reader. It is well worth your time to walk upstairs and see his project and, of course, the others that Dr. Zeiner and her committee have arranged.

DECEMBER CLASSES

It is hoped that by now all will have received the *Winter List of Classes* and that all will have found something of interest.

As a break in the holiday rush, perhaps you'd enjoy an interesting, informative tour of the conservatory. It will only take an hour of your time and you will forget the pressures of addressing cards or wrapping packages in this tranquil tropical spot.

Join a volunteer on December 9 or 11 at 9:30 or 10:30 a.m. for *Guiding Is Fun*. Free but get your name in now for only four people can be accommodated at each hour.

Free Film

Getting tired of the cold and longing for flowers again? Come see "This Garden, England," a colorful movie which has won awards from the American Horticultural Society for its beauty. This will be shown on December 7 at 1:30 in Classroom C. All welcome.



1975 ALL-AMERICAN ROSE AWARDS

With high scores in all three of the major rose classes, all-American honors divided equally with a hybrid tea, a floribunda and a grandiflora, each winning an award. Oregold, a magnificent yellow hybrid tea; Arizona, a grandiflora with the color of a desert sunset and a heavenly fragrance, and Rose Parade, a floribunda having clustered, full petalled coral-pink blooms and a rich fragrance, each received an award, placing them all within the ranks of the world's finest roses.

Many other very excellent entries into the AARS trials fell by the wayside with the accompanying losses, both financial and in prestige, for those who entered them, but that, of course, must occur in fulfilling the purpose of the All-America rose trials. The entries must be culled and culled again until only the very finest of all roses become All-America winners.

AARS winners are not chosen particularly as outstanding show roses. They are given awards because they have demonstrated in the trials that they will make the finest possible garden roses. At the same time, the records show they generally give outstanding results on the show tables as well.

Good Ideas Spread

Mrs. Willett S. Moore, Zone XI Chairman of the Garden Club of America, has reported that a childrens' garden project has been established at the Thomas Irvine Dodge Nature Center in St. Paul, Minnesota. This garden was a direct result of a visitor from St. Paul who stopped to talk with Beverly Nilsen about our program. That chance conversation and resulting correspondence was his inspiration to develop a similar program. As he wrote "her ideas and direction have fallen on fertile ground."

The Director-Naturalist of the Dodge Nature Center reported that 131 students participated in 1974 under the supervision of two staff members and three volunteers. He further reported the addition of a greenhouse that enabled them to offer winter and spring gardening classes; blind students are enrolled in their program; fifteen of the participants are sponsored and supervised by a local 4-H chapter; and classes for adult gardeners were started in 1974.

DENVER BOTANIC GARDENS
CALENDAR OF EVENTS
DECEMBER, 1974

DECEMBER

2)*	2:00 p.m.	Botanic Gardens House — Main Room	Plains Conservation Center — Annual joint meeting — Board of Trustees and members.
2)*	7:00 p.m.	Education Building — Lecture Room "B"	Floral Design Workshop — Mr. Lee Ashley
3)*	10:00 a.m.	Education Building — Herbarium	Herbarium Committee Meeting
3)*	10:00 a.m.	Botanic Gardens House — Dining Room	Guides Committee Meeting
3)*	1:00 p.m.	Botanic Gardens House — Dining Room	Editorial Committee Meeting
3)*	7:30 p.m.	Botanic Gardens House — Dining Room	Audubon Society — Wildlife Workshop
3)	7:30 p.m.	Botanic Gardens House — Main Room	Colorado Mountain Club — Conservation
4)*	7:00 p.m.	Education Building — Lecture Room "B"	Floral Design Workshop — Mr. Lee Ashley
5)*	6:30 p.m.	Education Building — Lecture Room "B"	General Botany — Dr. F. H. Wingate
5)*	7:00 p.m.	Education Building — Lecture Room "A"	Floral Design Workshop - Mr. Lee Ashley
5)	7:30 p.m.	Education Building — Lecture Room "C"	Colorado Open Space Council
5)*	7:45 p.m.	Botanic Gardens House — Main — Dining Room & Kitchen	Denver Orchid Society
6)	11:00 a.m.	Botanic Gardens House — Main — Dining Room & Kitchen	Civic Garden Club
7)*	9:00 a.m.	Education Building — Lecture Room "B"	Christmas Decorations — Mr. R. Hannigan
7)	1:30 p.m.	Education Building — Lecture Room "C"	"This Garden, England" — Free Film
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9)*	9:30 & 10:30 a.m.	Education Building — Lobby	"Guiding is Fun" — (Limit: 4 each hour)
9)	7:30 p.m.	Botanic Gardens House — Main Room	Sierra Club — Wildlife Committee
10)*	4:00 p.m.	Botanic Gardens House — Dining Room	Executive Committee Meeting
11)*	9:30 & 10:30 a.m.	Education Building — Lobby	"Guiding is Fun" — (Limit: 4 each hour)
11)*	6:30 p.m.	Education Building — Horticulture Hall	Parks & Recreation — Christmas Party
11)	10:00 a.m.	Botanic Gardens House — Main — Dining Room & Kitchen	Ikebana International
11)	7:30 p.m.	Botanic Gardens House — Dining Room	Landscape Industry Council
12)*	Noon	Botanic Gardens House — Dining Room	Colorado Garden & Home Show Meeting
12)*	3:30 p.m.	Botanic Gardens House — Dining Room	Development & Public Relations Meeting
12)*	6:30 p.m.	Education Building — Lecture Room "B"	General Botany — Dr. F. H. Wingate
12)	7:00 p.m.	Education Building — Lecture Room "A"	Sierra Club — Conservation Committee
12)	7:30 p.m.	Botanic Gardens House — Main — Dining Room & Kitchen	Men's Garden Club
13)	7:30 p.m.	Botanic Gardens House — Main — Dining Room & Kitchen	Denver Dahlia Society
14)*	9:00 a.m.	Education Building — Lecture Room "B"	Bottle Gardens — Mr. R. Hannigan
14)	10:00 a.m.	Education Building — Lecture Room "A"	Organic Soil & Food Association
14)*	6:00 p.m.	Botanic Gardens House — Main — Dining Room & Kitchen	Colorado Bonsai Club

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CALENDAR OF EVENTS – DECEMBER 1974 (Continued)

18)*	7:00 p.m.	Botanic Gardens House – Main – Dining Room & Kitchen	Landscape Architects
18)	7:30 p.m.	Education Building – Horticulture Hall	City & County Planning Board – Congress Park
19)*	10:00 a.m.	Botanic Gardens House – Main Room, & Dining Room	Around the Seasons
19)	7:30 p.m.	Education Building – Lecture Room “C”	Organic Gardening Club

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25) MERRY CHRISTMAS!
&
HAPPY NEW YEAR!



1975

JANUARY

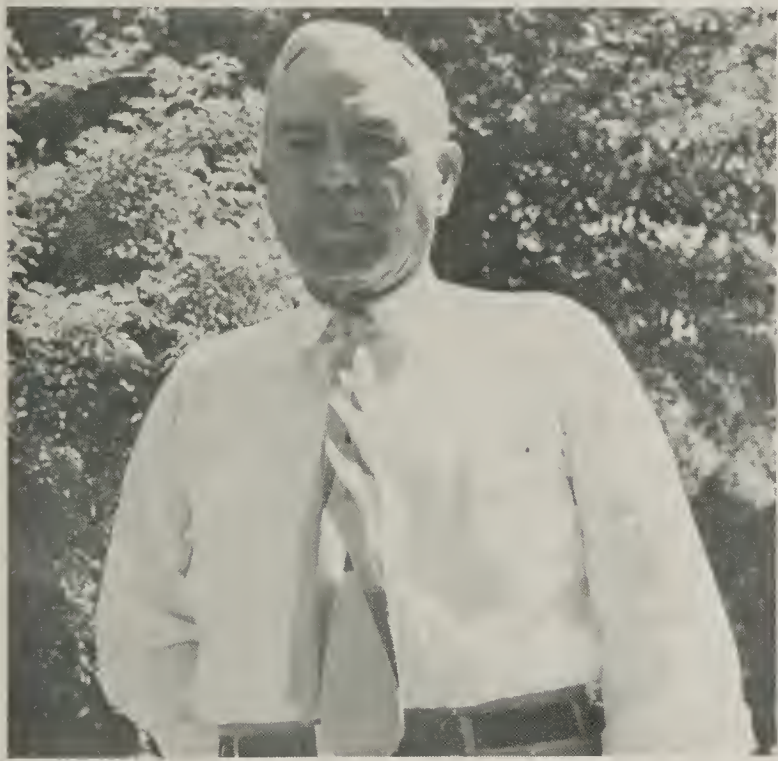
4)	9:30 a.m.	Botanic Gardens House – Main Room	Gloxinia Gesneriad Growers
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**Members or enrollees only*

No birthday party is complete without a birthday present and during the Associates' tenth birthday party and Annual Luncheon last month they made a substantial gift to the Denver Botanic Gardens. This gift will go towards the completion of the Lilac-Fragrance area of the outside gardens, in the far southwest corner. Basically these funds will provide for regrading the three mounds in that section, covering them with rip-rap material, path construction and other improvements for the final development of that area. Additionally the Associates pledged more funds towards this project during the upcoming year.

As the "frosting on the cake" of their gift to Denver Botanic Gardens, the Associates made a future commitment towards the complete development of the Fragrance area, to be dedicated as a living tribute to Dr. A. C. Hildreth, Director Emeritus. It was Dr. Hildreth's enthusiasm and leadership that helped spark the Associates in their role as volunteers when the group was first formed ten years ago.



Thanks again

Month after month the work of the volunteers goes on and although it is not often expressed in print, all of us here at the Denver Botanic Gardens do appreciate your help.

At the Associates Annual Meeting recognition was given to the following:

1973-1974 Service Pins and Awards

500 Hour Pins		
Wilma Aller	Gift Shop	518¾ hrs
Peg Altwater	Hostess Desk, Guide, Historian of Associates	567 "
Elsie Capella	Gift Shop	621½ "
Mary Jane Downing	Library	691 "
Geneva Eldridge	Library	702 "
Mildred Foust	Gift Shop	612 "
Rachel Hauck	Library	634½ "
Viola Holland	Library	605½ "
Dorothy Lecker	Gift Shop	591 "
Carol Locklin	Gift Shop	571 "
Leah McCutchan	Gift Shop	536 "
Bernice Millard	Library	795 "
Christine Ross	Gift Shop	535 "

1,000 Hour Pins

Rose Christensen	Workshop	1450 "
Elvia Gauss	Gift Shop, Hospitality	1156½ "
Louise Pote	Gift Shop	1043 "

Awards of Distinguished Service

Rose Christensen	Lucille Roberts
Lucy Crissey	Ruth Tempel
Myrtle McDowell	

The Christmas Sale was its usual smash event. Volunteers worked for months collecting dried materials, fashioning hand crafted items and selecting gifts from all over the world. Finally on the days of the Sale, everyone pitched in and a most successful sale was held.

You are a grand group and we couldn't get along without you!

Further information for those who missed the Compost Class in October.

MATERIAL FIRST – THEN COMPOST

You have a hard, clay, lifeless soil on your property and you know that it should be built up with humus. You want a good garden, believe in returning organic matter to the soil, but you have little material to compost. What do you do?

Actually, composting is hardly worthwhile if you have only a cart full of material. It won't compost properly and it will make such a little bit of finished compost. What you need is quantity – a large quantity of organic material – and you need to put the compost from that material on your soil, year after year. A small application will be lost. There is no magic power in a handful of vegetable matter, but there is great power to create a rich soil by years of heavy application of compost.

Obviously, the thing to do is to get a lot of material, either by hauling it in – hay, farm wastes, leaves, etc. – or by growing it on your place. If you haul in what you need you can run a successful compost bin, and that is the answer. Growing it on your place calls for fertilizer – manure.

Put manure several inches deep on the ground you want to use for a garden. Till it into the soil if you are going to use that ground soon, let it lay there if you can wait a year. It will work itself into the soil much quicker than you think. If you can manage it, it's a good idea to plant clover or alfalfa or rye and then turn it under when it has good growth in late spring. Don't waste your organic material, including grass. Spread it on the ground, or, if you won't want to look at, bury it. Spread the grass clippings thinly so they won't mat. Read "How to Have a Green Thumb Without an Aching Back."

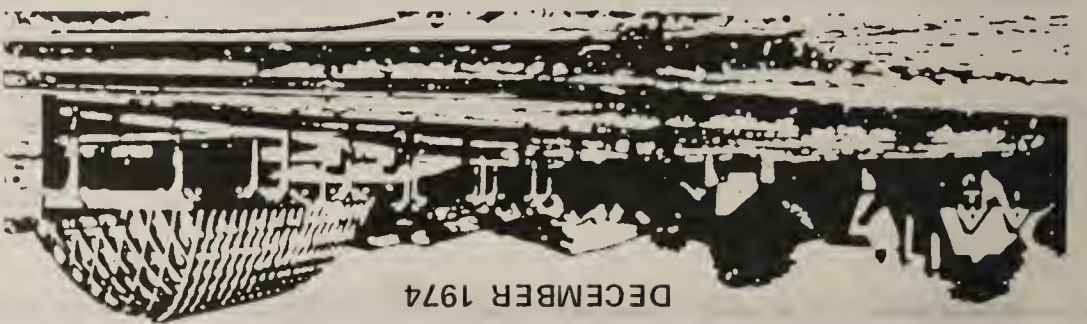
A few years of applying manure and of growing "green manure" will give you enough good soil to grow a good garden which will furnish material for composting. You need leaves, and big healthy trees will furnish them. Then start your composting on a large scale.

This arid, alkaline soil of ours hasn't had any humus to speak of. You have to put it there yourself, and you have to be constantly adding to it and renewing it. The more you have the better.

Wes Woodward

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DECEMBER 1974

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Suggestions for Christmas

What to get for the person who has everything? How about a membership in the Denver Botanic Gardens. Benefits include:

1. Twelve issues of the Green Thumb Newsletter, one each month of the year, with monthly gardening tips for the Denver Area, and the complete monthly program of the Denver Botanic Gardens. Six issues of Jolly Green Gardener Newsletter for Junior Membership.
2. Four issues of the Green Thumb magazine, issued quarterly, with a wide variety of highly readable articles of lasting interest to plant lovers in the Rocky Mountain Region.
3. The privileges of checking out books from the Helen Fowler Library for your own personal use (non-members may use books only in the library, during library hours).
4. Discount of up to 30% on courses offered by the Denver Botanic Gardens.
5. Answers to your garden questions on flowers, shrubs, trees, and lawn.
6. Use of rooms in Botanic Gardens House and the Education Building of the Boettcher Memorial Center for flower shows, classes, study groups and other meetings pertaining to horticulture, botany, or conservation.
7. Identification of native and cultivated plants, both woody and herbaceous of the Denver Metropolitan Area, including the mountains.
8. Opportunity to participate in a wide range of activities sponsored by the Denver Botanic Gardens and its affiliated organizations.

Information of Interest to Volunteers

The Historic Denver newspaper reports that a bill still in committee in the Congress, HB 3416, will provide income tax deductions for volunteer work. Volunteers who contribute fifty or more hours per year would be able to deduct \$2.00 per hour or the Federal minimum wage, whichever is higher, up to \$2,000 per year. It would be most appropriate for interested people to write their own congressman and express their feelings on this new bill.

Did you know

Mistletoe, a very common Christmas plant, was considered to be sacred by the Druids since it grew parasitically on trees such as oak or juniper. Twigs were hung over doors or used as amulets, rings and bracelets to ward off the evil forces. It was not only effective against witchcraft but also protected against apoplexy, tremors, poisoning and consumption. Its magic depends on never touching the earth and that is why it is always displayed hanging.

This and other information may be found in *Bizarre Plants* by William A. Emboden in the Helen Fowler Library.

Did your children see the TV show *Big Blue Marble* on November 3? The Richard Yeatts family of Golden was featured as they climbed Mt. Evans. Loraine is a member of the Herbarium committee and the photographer for the Botanic Gardens (you've all seen her pictures in *The Green Thumb magazine*). She reported that the film crew was from New York, had never climbed before and were exhausted at the end of the day because of the altitude and the heavy equipment they had to carry. Lovely pictures, however, and our congratulations to Mike Yeatts, age 12, the star of the show.



Green Thumb Newsletter is published monthly by Denver Botanic Gardens, Inc., 909 York Street, Denver, Colorado 80206. The Newsletter is included as a benefit of membership in the Denver Botanic Gardens, regular membership dues being \$10.00 a year. Items for publication are welcome. The deadline for copy to the editor is 2:00 p.m. on the 10th of each month preceding publication. Editor — Margaret Sikes, 297-2547, Ext. 23.

